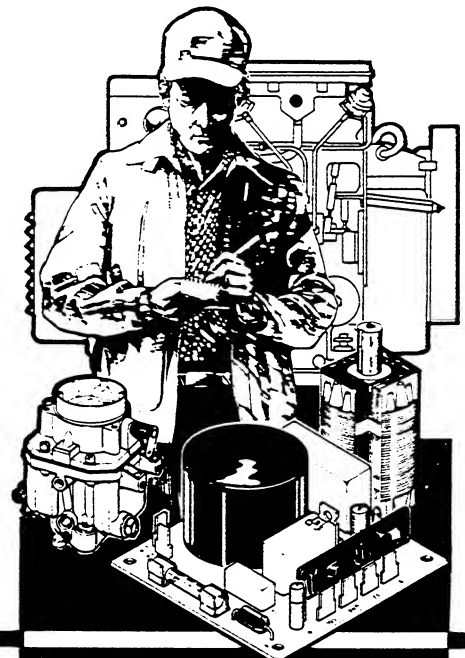

Onan

**Parts
Manual**
DL6
GenSet



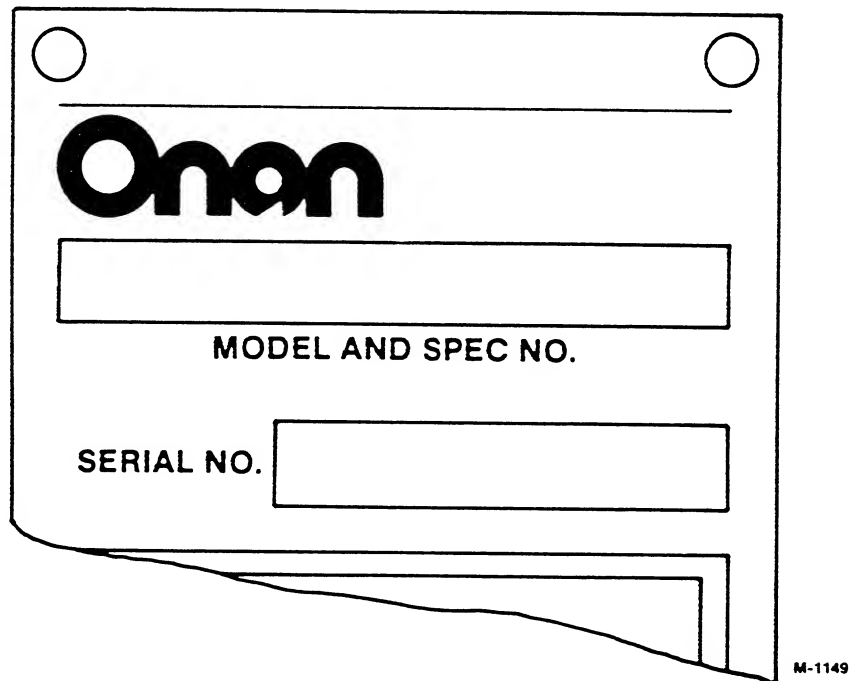
Onan Service Parts

934-0231
3-89 (SPEC C-E)
Replaces 6-88 (Spec C-E)
Printed in U.S.A

General Information

For parts or service, contact the dealer from whom you purchased this equipment or refer to your Nearest Authorized Onan Parts and Service Center.

To avoid errors or delay in filling your parts order, always give the MODEL, SPEC NO. and SERIAL NO. from the Onan nameplate.



A diagram of an Onan nameplate. It is a rectangular plate with two circular mounting holes at the top corners. The Onan logo is at the top. Below it is a large rectangular box labeled "MODEL AND SPEC NO.". Below that is a smaller rectangular box labeled "SERIAL NO.". The bottom right corner of the plate is folded over, revealing another layer. The text "M-1149" is printed at the bottom right of the diagram.

For handy reference, insert "YOUR" nameplate information in the spaces above.

Important Safety Precautions

Read and observe these safety precautions when using or working on electric generators, engines and related equipment. Also read and follow the literature provided with the equipment.

Proper operation and maintenance are critical to performance and safety. Electricity, fuel, exhaust, moving parts and batteries present hazards that can cause severe personal injury or death.

FUEL, ENGINE OIL, AND FUMES ARE FLAMMABLE AND TOXIC

Fire, explosion, and personal injury can result from improper practices.

- Used engine oil, and benzene and lead, found in some gasoline, have been identified by government agencies as causing cancer or reproductive toxicity. When checking, draining or adding fuel or oil, do not ingest, breathe the fumes, or contact gasoline or used oil.
- Do not fill tanks with engine running. Do not smoke around the area. Wipe up oil or fuel spills. Do not leave rags in engine compartment or on equipment. Keep this and surrounding area clean.
- Inspect fuel system before each operation and periodically while running.
- Equip fuel supply with a positive fuel shutoff.
- Do not store or transport equipment with fuel in tank.
- Keep an ABC-rated fire extinguisher available near equipment and adjacent areas for use on all types of fires except alcohol.
- Unless provided with equipment or noted otherwise in installation manual, fuel lines must be copper or steel, secured, free of leaks and separated or shielded from electrical wiring.
- Use approved, non-conductive flexible fuel hose for fuel connections. Do not use copper tubing as a flexible connection. It will work-harden and break.

EXHAUST GAS IS DEADLY

- Engine exhaust contains carbon monoxide (CO), an odorless, invisible, poisonous gas. Learn the symptoms of CO poisoning.
- Never sleep in a vessel, vehicle, or room with a genset or engine running unless the area is equipped with an operating CO detector with an audible alarm.
- Each time the engine or genset is started, or at least every day, thoroughly inspect the exhaust system. Shut down the unit and repair leaks immediately.

- Warning: Engine exhaust is known to the State of California to cause cancer, birth defects and other reproductive harm.

Make sure exhaust is properly ventilated.

- Vessel bilge must have an operating power exhaust.
- Vehicle exhaust system must extend beyond vehicle perimeter and not near windows, doors or vents.
- Do not use engine or genset cooling air to heat an area.
- Do not operate engine/genset in enclosed area without ample fresh air ventilation.
- Expel exhaust away from enclosed, sheltered, or occupied areas.
- Make sure exhaust system components are securely fastened and not warped.

MOVING PARTS CAN CAUSE SEVERE PERSONAL INJURY OR DEATH

- Do not remove any guards or covers with the equipment running.
- Keep hands, clothing, hair, and jewelry away from moving parts.
- Before performing any maintenance, disconnect battery (negative [–] cable first) to prevent accidental starting.
- Make sure fasteners and joints are secure. Tighten supports and clamps, keep guards in position over fans, drive belts, etc.
- If adjustments must be made while equipment is running, use extreme caution around hot manifolds and moving parts, etc. Wear safety glasses and protective clothing.

BATTERY GAS IS EXPLOSIVE

- Wear safety glasses and do not smoke while servicing batteries.
- Always disconnect battery negative (–) lead first and reconnect it last. Make sure you connect battery correctly. A direct short across battery terminals can cause an explosion. Do not smoke while servicing batteries. Hydrogen gas given off during charging is explosive.
- Do not disconnect or connect battery cables if fuel vapors are present. Ventilate the area thoroughly.

DO NOT OPERATE IN FLAMMABLE AND EXPLOSIVE ENVIRONMENTS

Flammable vapor can be ignited by equipment operation or cause a diesel engine to overspeed and become difficult to stop, resulting in possible fire, explosion, severe personal injury and death. **Do not operate diesel equipment where a flammable vapor environment can be created by fuel spill, leak, etc., unless equipped with an automatic safety device to block the air intake and stop the engine.**

HOT COOLANT CAN CAUSE SEVERE PERSONAL INJURY

- Hot coolant is under pressure. Do not loosen the coolant pressure cap while the engine is hot. Let the engine cool before opening the pressure cap.

ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH

- Do not service control panel or engine with unit running. High voltages are present. Work that must be done while unit is running should be done only by qualified service personnel.
- Do not connect the generator set to the public utility or to any other electrical power system. Electrocution can occur at a remote site where line or equipment repairs are being made. An approved transfer switch must be used if more than one power source is connected.
- Disconnect starting battery (negative [-] cable first) before removing protective shields or touching electrical equipment. Use insulative mats placed on dry wood platforms. Do not wear jewelry, damp clothing or allow skin surface to be damp when handling electrical equipment.
- Use insulated tools. Do not tamper with interlocks.
- Follow all applicable state and local electrical codes. Have all electrical installations performed by a qualified licensed electrician. Tag open switches to avoid accidental closure.
- With transfer switches, keep cabinet closed and locked. Only authorized personnel should have cabinet or operational keys. Due to serious shock hazard from high voltages within cabinet, all service and adjustments must be performed by an electrician or authorized service representative.

If the cabinet must be opened for any reason:

1. Move genset operation switch or Stop/Auto/Handcrank switch (whichever applies) to Stop.
2. Disconnect genset batteries (negative [-] lead first).
3. Remove AC power to automatic transfer switch. If instructions require otherwise, use extreme caution due to shock hazard.

MEDIUM VOLTAGE GENERATOR SETS (601V TO 15kV)

- Medium voltage acts differently than low voltage. Special equipment and training are required to work on or around medium voltage equipment. Operation and maintenance must be done only by persons trained and qualified to work on such devices. Improper use or procedures will result in severe personal injury or death.
- Do not work on energized equipment. Unauthorized personnel must not be permitted near energized equipment. Induced voltage remains even after equipment is disconnected from the power source. Plan maintenance with authorized personnel so equipment can be de-energized and safely grounded.

GENERAL SAFETY PRECAUTIONS

- Do not work on equipment when mentally or physically fatigued or after consuming alcohol or drugs.
- Carefully follow all applicable local, state and federal codes.
- Never step on equipment (as when entering or leaving the engine compartment). It can stress and break unit components, possibly resulting in dangerous operating conditions from leaking fuel, leaking exhaust fumes, etc.
- Keep equipment and area clean. Oil, grease, dirt, or stowed gear can cause fire or damage equipment by restricting airflow.
- Equipment owners and operators are solely responsible for operating equipment safely. Contact your authorized Onan/Cummins dealer or distributor for more information.

KEEP THIS DOCUMENT NEAR EQUIPMENT FOR EASY REFERENCE.

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Introduction

This parts manual applies to the standard generator sets as listed below. Parts are arranged in groups of related items and each illustrated part is identified by a reference number corresponding to the same reference number in the parts list. Unless otherwise mentioned in the description or page heading, parts are interchangeable between models. All references in the parts description or page heading that pertain to specification letter differences for replacement parts are for the model listed on the identification label affixed to the generator set control. Throughout this manual left (non-accessory) and right (accessory) sides are determined by facing the rear or generator end of the set.

Generator Set Data Table

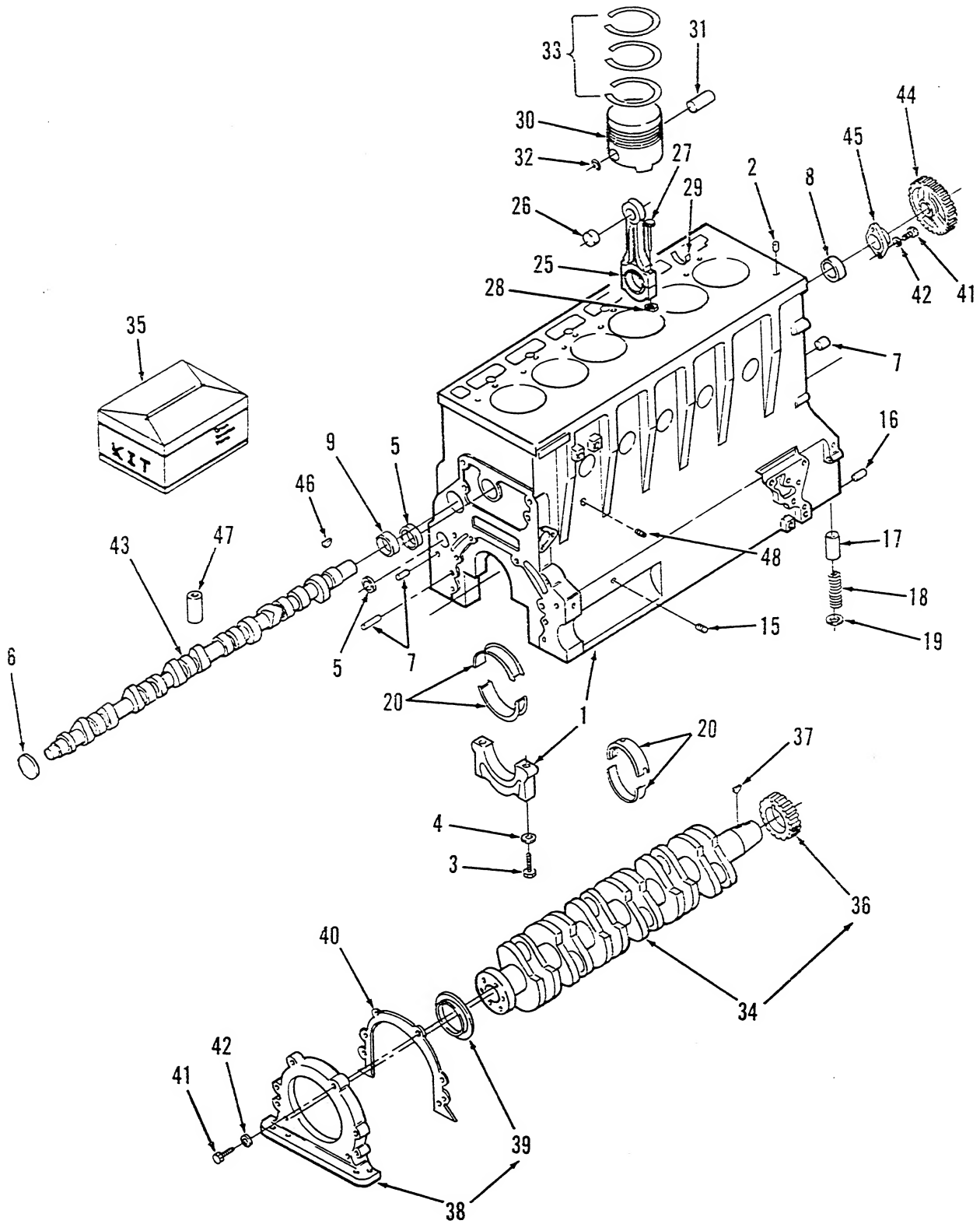
MODEL IDENTIFICATION	RATING	MODEL IDENTIFICATION	RATING
20.0 DL6-*/#@	20,000 WATTS	25.0 DL6-*/#@	25,000 WATTS
30.0 DL6-*/#@	30,000 WATTS		

Electrical Data Table

*VOLTAGE CODES	VOLTS	HERTZ	WIRE	PHASE	NOTES
(3AR)	100/200	60	4	1	+
B (3R)	120/240	60	4	1	
(7R)	220/380	60	4	3	
(9XR)	347/600	60	4	3	
L (15R)	120/208	60	12	3	
	120/240				+
	127/220				
	139/240				
	240/416				
	254/440				
	277/480				
(53R)	120/240	50	4	1	
(515R)	110/190	50	12	3	
	110/220				
	115/200				
	115/230				
	120/208				
	127/220				
	220/380				
	230/400				
	240/416				
	254/440				

- * - Voltage codes follow model letter designations. A letter is now used in the model to indicate the voltage codes and replaces the corresponding number and letter designations (in brackets) as listed in the Electrical Data Table column. (Example: 30.0 DL6-L/ was formerly 30.0 DL6-15R/) The letter designation is used beginning with Spec E models.
- # - Specification number: Number 1 is standard, all others indicate variations.
- @ - Specification letter: Letter advances (C to D, D to E, etc.) with major manufacturing changes.
- + - These generators are reconnectable, refer to Operator's Manual for wiring data.

Cylinder Block



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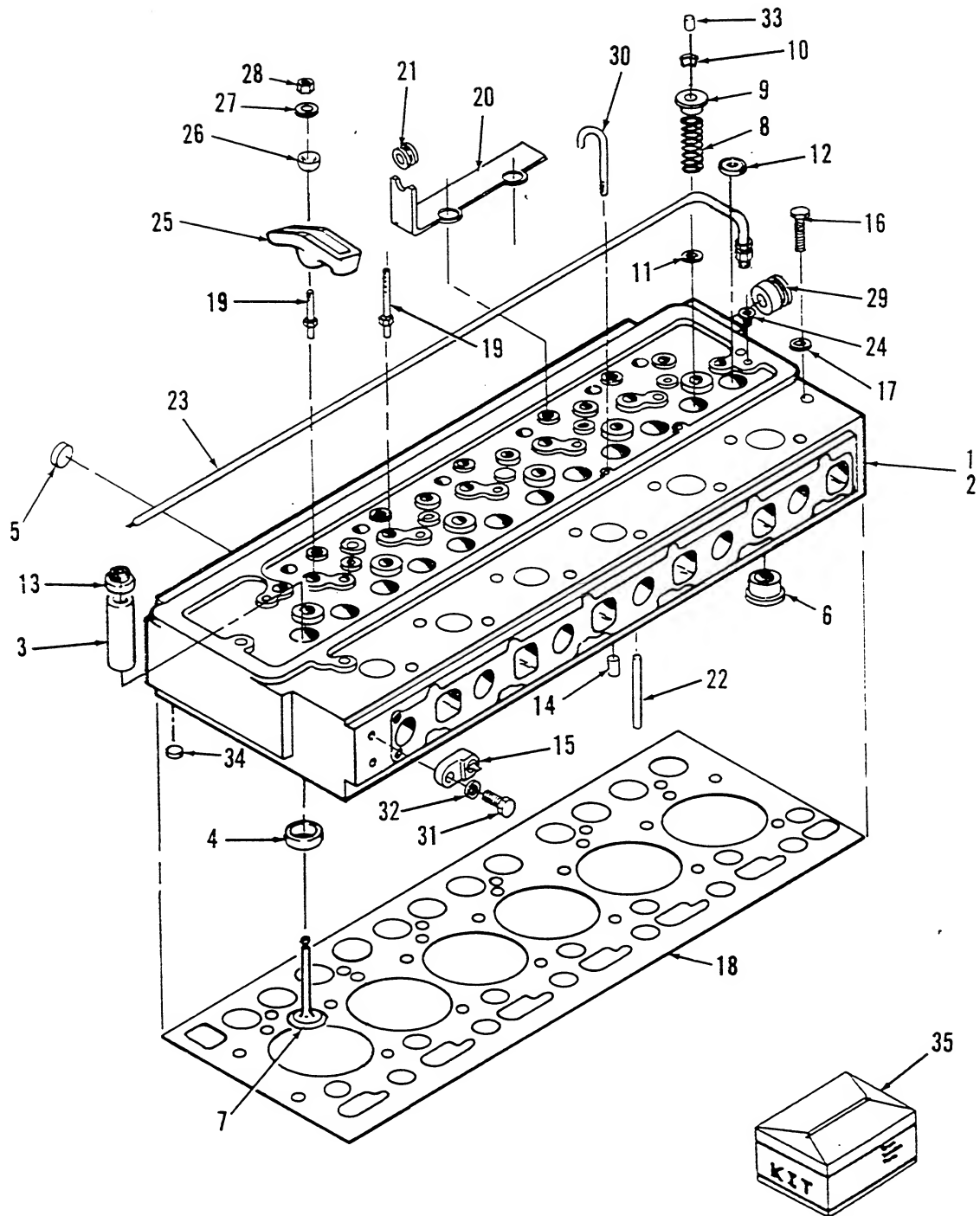
Cylinder Block

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION	
1	110-3292	1	Block Assembly, Cylinder (Includes Parts Marked *)	26	114-0316	6	Bushing, Connecting Rod (Semi-Finished)	
2	110-2978	2	*Pin, Cylinder Head Alignment	27	114-0315	12	Bolt, Connecting Rod	
3	720-1801	14	*Screw, Cap - Hex Head - Special	28	114-0318	12	Nut, Connecting Rod	
4	740-1801	14	*Washer, Flat - Special	29			Bearing, Connecting Rod (Half)	
5			Plug, Cup		114-0319	12	Standard	
	517-0141	6	* 50.8 MM Stainless Steel		114-0319-01	12	0.25 MM Undersize	
	517-0144	2	* 12.7 MM Steel		114-0319-02	12	0.50 MM Undersize	
	517-0146	1	* 31.75 MM Stainless Steel		114-0319-03	12	0.75 MM Undersize	
	517-0250	1	54.37 MM Stainless Steel (Oversize)	30			Piston And Pin Kit (Includes Retaining Rings)	
6	517-0140	1	*Plug, Welch (57.15 MM) Steel		112-0201	6	Standard	
7			Pin, Alignment		112-0202	6	0.25 MM Oversize	
	775-0074	2	* 8 MM x 20 MM		112-0203	6	0.50 MM Oversize	
	775-0089	2	* 10 MM x 20 MM		112-0204	6	0.75 MM Oversize	
	775-0078	2	* 8 MM x 40 MM		112-0205	6	1.0 MM Oversize	
8	101-0511	1	*Bearing, Camshaft - Front	31	112-0165	6	Pin, Piston	
9	101-0471	6	*Bearing, Camshaft - Inter- mediate and Rear	32	518-0409	12	Ring, Retaining - Piston Pin	
15	505-0274	6	*Plug, Pipe - Steel (1/8")	33			Ring Kit, Piston	
16	516-2102	1	*Pin, Regulator Valve Spring		113-0233	6	Standard	
17	123-1514	1	*Piston, Regulator Valve		113-0234	6	0.25 MM Oversize	
18	123-1511	1	*Spring, Regulator Valve		113-0235	6	0.50 MM Oversize	
19	740-1004	1	*Washer, Flat (M6)		113-0236	6	0.75 MM Oversize	
20			Bearing Kit, Main (Includes Upper and Lower Bearing Half)	34	104-1576	1	Crankshaft and Gear (Includes Key)	
			Front		35	168-0173	1	Kit, Gasket - Lower End
	101-0689	1	Standard		36	104-1138	1	Gear, Crankshaft
	101-0690	1	0.25 MM Undersize		37	515-0245	1	Key - Crankshaft Gear
	101-0691	1	0.50 MM Undersize		38	101-0713	1	Plate, Rear Seal (Includes Seal)
	101-0692	1	0.75 MM Undersize		39	509-0203	1	Seal, Oil - Rear (Includes Wear Sleeve)
			Center		40	101-0600	1	Gasket, Rear Seal Plate
	101-0681	1	Standard		41	718-1037	8	Screw, Cap - Hex Head (M8 x 25 MM)
	101-0682	1	0.25 MM Undersize		42	740-1006	8	Washer, Flat (M8)
	101-0683	1	0.50 MM Undersize		43	105-0512	1	Camshaft
	101-0684	1	0.75 MM Undersize		44	105-0515	1	Gear, Camshaft
			Intermediate (Except Center)		45	105-0534	1	Retainer, Camshaft
	101-0685	4	Standard		46	515-0245	1	Key - Camshaft Gear
	101-0686	4	0.25 MM Undersize		47	115-0275	12	Tappet
	101-0687	4	0.50 MM Undersize		48	504-0028	1	Valve, Coolant Drain (3/8") Spec C
	101-0688	4	0.75 MM Undersize					
			Rear					
	101-0677	1	Standard					
	101-0678	1	0.25 MM Undersize					
	101-0679	1	0.50 MM Undersize					
	101-0680	1	0.75 MM Undersize					
25	114-0313	6	Rod, Connecting (Includes Finished Bearing, Bolts and Nuts)					

* - Parts Included in 110-3292 Cylinder
Block Assembly

* - Parts Included in 110-3292 Cylinder
Block Assembly

Cylinder Head

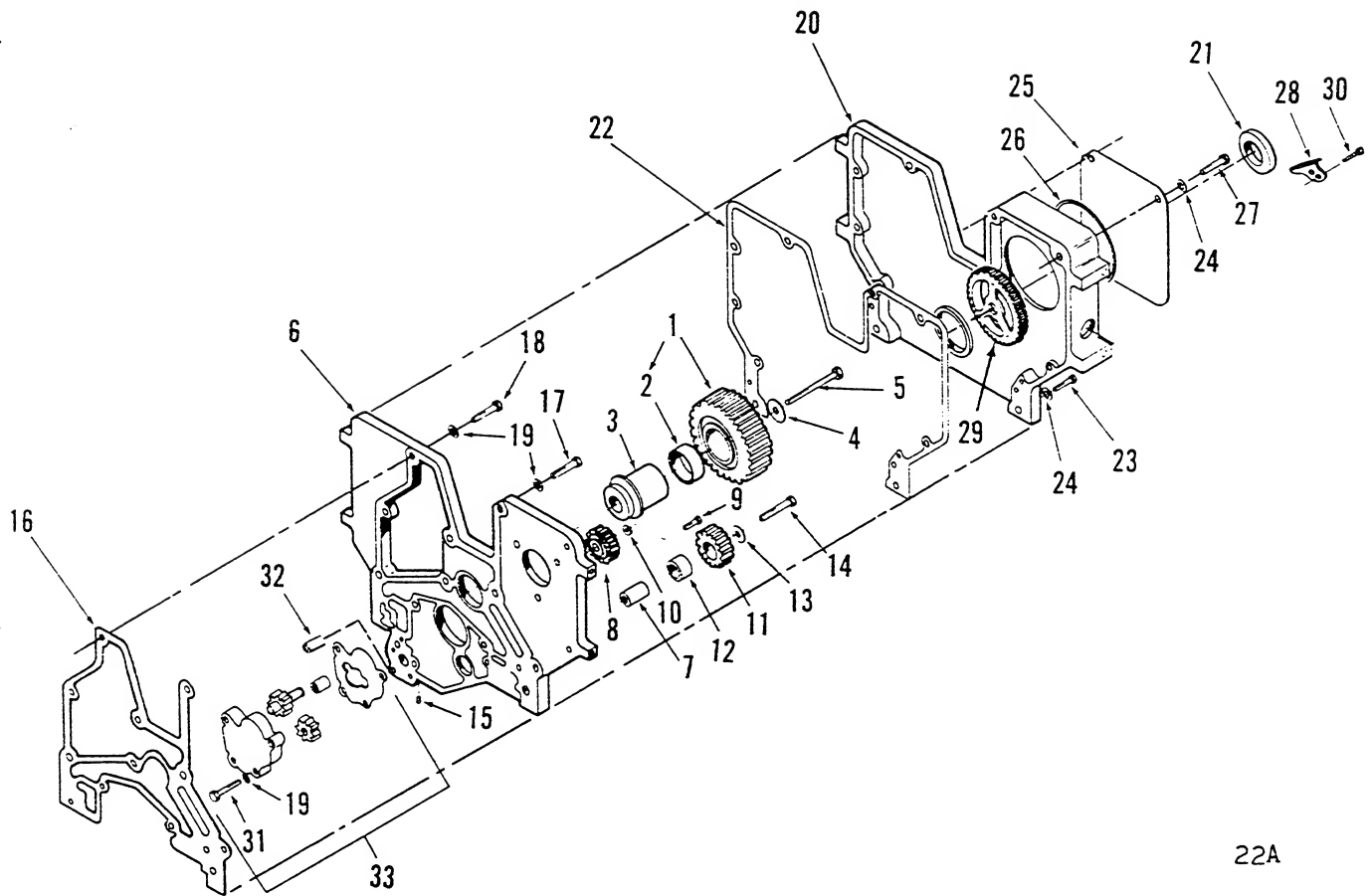


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Cylinder Head

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	110-3200	1	Head Assembly, Cylinder (Includes Guides, Seats, Cup Plugs, Breather Tubes, Valves, Springs, Water Pump Adapter, Retainers, Collets, Wear Plates, Sleeves, Seals and Spacers)	11	110-2991	12	Plate, Valve Spring Wear Spec C
2	110-3284	1	Head, Cylinder (Includes Water Pump Adapter, Seats, Spacers, Sleeves, Cup Plugs and Guides)	12	110-2991	6	Begin Spec D (Exhaust)
3	110-3495	6	Guide, Valve (Semi-Finished)	12	110-3432	6	Spacer, Valve Spring (Intake) Begin Spec D
4	110-3496	6	Intake (Standard)	13	110-3228	12	Seal Assembly, Valve Stem
			Exhaust (Standard)	14	110-2979	6	Sleeve, Sealing
			Seat, Valve	15	309-0269	1	Switch, Low Engine Temperature (S4) Controls With 9 or 12 Indicator Lights
			Intake (Not Original Equipment)	16	720-1802	26	Screw, Cap - Hex Head (M12 x 130 MM)
	110-2839	6	Spec C	17	740-1801	20	Washer, Flat (M12)
			Begin Spec D	18	110-3026	1	Gasket, Cylinder Head
	110-3226-01	6	Standard	19			Stud, Rocker Arm
	110-3226-02	6	.25 MM Oversize		115-0204	6	Short
	110-3226-03	6	.50 MM Oversize		115-0270	6	Long
			Exhaust	20	115-0313	3	Guide, Push Rod
	110-2781-01	6	Standard	21	508-0228	3	Grommet
	110-2781-02	6	.25 MM Oversize	22	115-0253	12	Pushrod
	110-2781-03	6	.50 MM Oversize	23	120-0920	1	Tube, Rocker Arm Oil
5			Plug, Cup	24	502-0003	1	Connector, Inverted Male
	517-0142	11	38.1 MM	25	115-0316	12	Arm, Rocker
	517-0146	4	31.75 MM	26	115-0202	12	Ball, Rocker Arm
	517-0162	6	19.05 MM	27	526-2119	12	Washer, Flat
6	110-3137	6	Plug, Hot (Swirl)	28	115-0315	12	Locknut, Rocker Arm
7			Valve	29			Adapter, Water Pump
	110-3066	6	Intake		110-3045	1	Standard
	110-2840	6	Exhaust		110-3490	1	0.5 MM Oversize
8	110-3300	12	Spring, Valve	30	123-1536	2	Tube, Breather
9	110-3015	12	Retainer, Valve Spring	31	800-2085	1	Screw, Cap - Hex Head (M10 x 20 MM)
10	110-2752	24	Collet, Valve Lock	32	740-1008	1	Washer, Flat (M10)
				33	110-3245	12	Cap, Valve Stem
				34	517-0167	1	Plug, Cup (22.6 MM)
				35	168-0160	1	Kit, Gasket - Valve Grind

Gearcase

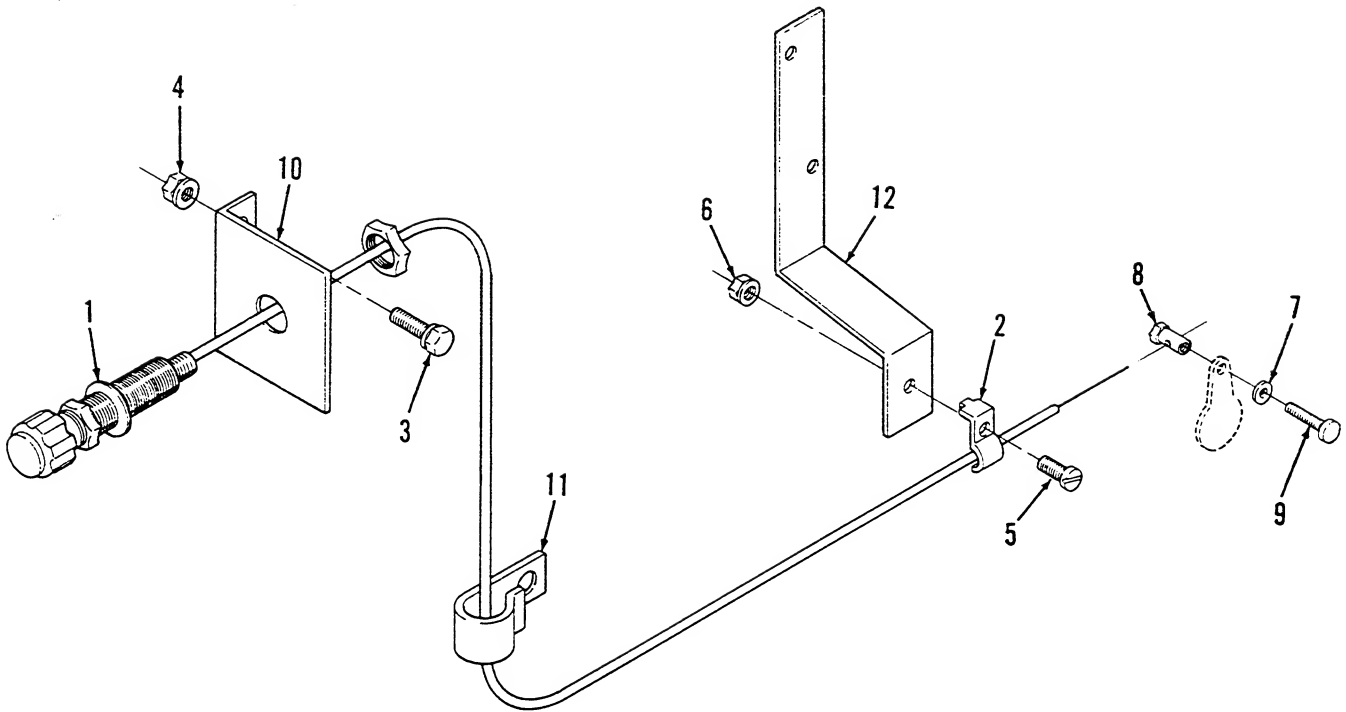


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Gearcase

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	105-0513	1	Gear, Idler (Includes Finished Bearing)	19	740-1006	7	Washer, Flat (M8)
2	105-0519	1	Bearing, Idler Gear (Semi-Finished)	20	103-0746	1	Gearcase (Includes Oil Seal and Oil Fill Tube)
3	105-0508	1	Shaft, Idler Gear	21	509-0191	1	Seal, Oil (Includes Wear Sleeve)
4	526-2127	1	Washer, Flat (M10)	22	103-0731	1	Gasket, Gearcase
5	718-1064	1	Screw, Cap - Hex Head (M10 x 75 MM)	23	718-1046	2	Screw, Cap - Hex Head M8 x 70 MM
6	103-0716	1	Backplate, Gearcase		718-1043	5	M8 x 55 MM
7	120-0983	1	Shaft, Oil Pump Idler Gear	24	740-1006	4	Washer, Flat M8
8	120-0885	1	Gear, Oil Pump Drive		740-1010	4	M12
9	718-1035	1	Screw, Cap - Hex Head (M8 x 16 MM)	25	103-0735	1	Cover, Injection Pump Gear
10	526-2106	1	Washer, Flat	26	509-0263	1	Seal, O-Ring
11	120-1063	1	Gear, Oil Pump Idler (Includes Finished Bearing)	27	718-1048	1	Screw, Cap - Hex Head M8 x 80 MM
12	120-1041	1	Bearing, Oil Pump Idler Gear (Semi-Finished)		718-1044	2	M8 x 60 MM
13	526-2107	1	Washer, Flat		718-1036	1	M8 x 20 MM
14	718-1035	1	Screw, Cap - Hex Head (M8 x 16 MM)	28	103-0750	1	Plate, Timing
15	725-1802	1	Screw, Hex Socket Set (M16 x 16 MM)	29	147-0427	1	Gear, Injection Pump
16	103-0733	1	Gasket, Gearcase Backplate	30	815-0578	2	Screw, Cap - Hex Head (M6 x 12.5 MM)
17	718-1037	1	Screw, Cap - Hex Head M8 x 25 MM	31	718-1043	2	Screw, Cap - Hex Head (M8 x 55 MM)
	718-1039	1	M8 x 35 MM	32	120-0979	1	Bearing, Oil Pump Drive Shaft
18	725-1801	2	Screw, Low Socket Head Cap (M8 x 16 MM)	33	120-1014	1	Pump Kit, Oil (Includes Drive Shaft Bearing)

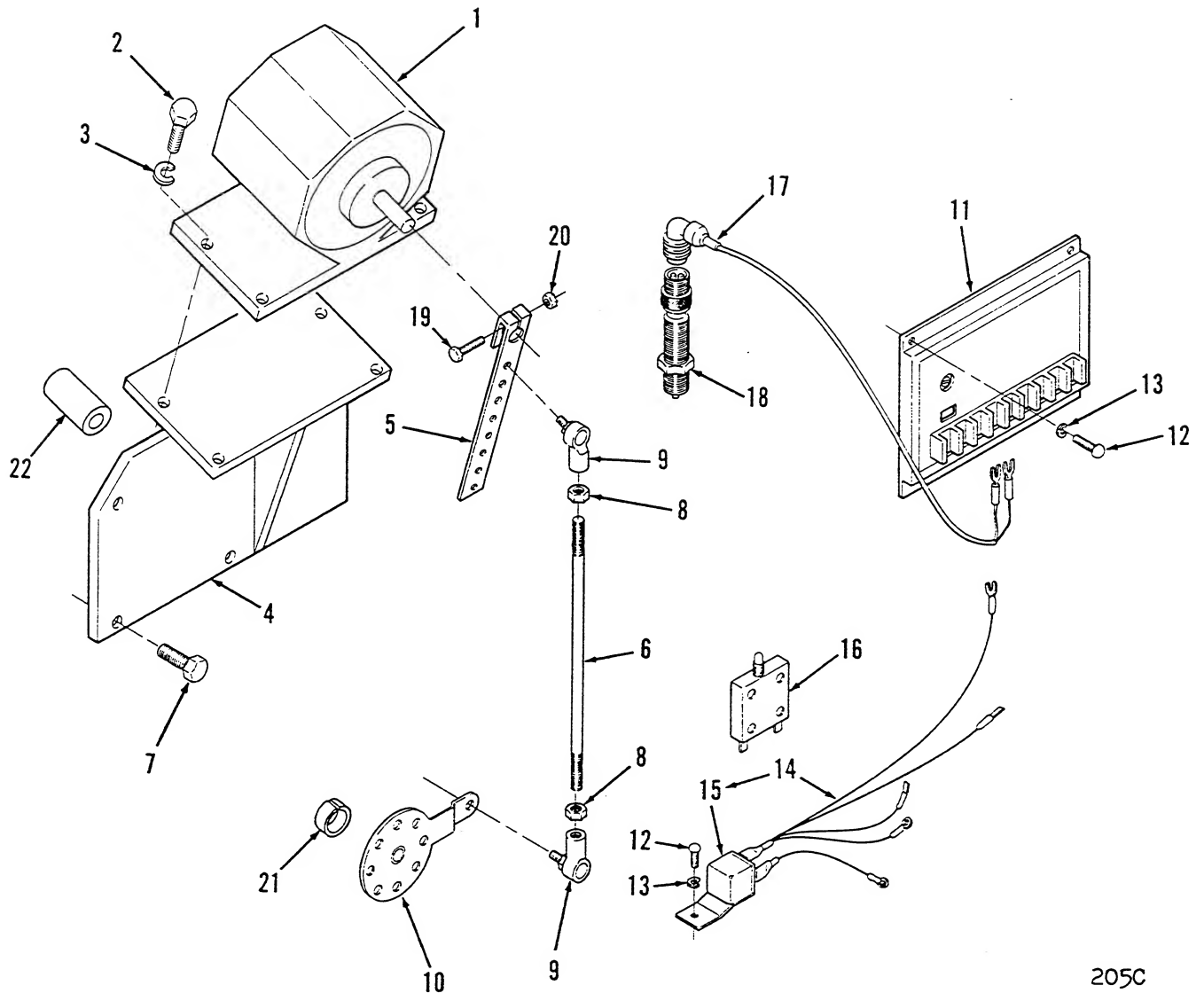
Vernier Throttle Control



217B

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	152-0157	1	Control, Vernier (51")	7	526-0052	1	Washer, Flat (1/4")
2	142-0114	1	Clip, Control Mounting	8	152-0158	1	Swivel
3	821-0018	2	Screw, Locking - Hex Washer Head (1/4-20 x 5/8")	9	815-0104	1	Screw, Machine - Fillister Head (#8-32 x 5/16")
4	870-0212	2	Nut, Self-locking - Hex (1/4-20)	10	151-0230	1	Bracket, Control Mounting
5	813-0103	1	Screw, Machine - Round Head - (#10-32 x 3/4")	11	148-0274	1	Clip, J
6	870-0131	1	Nut, Hex - With ET (#10-32)	12	152-0282	1	Bracket, Control Mounting

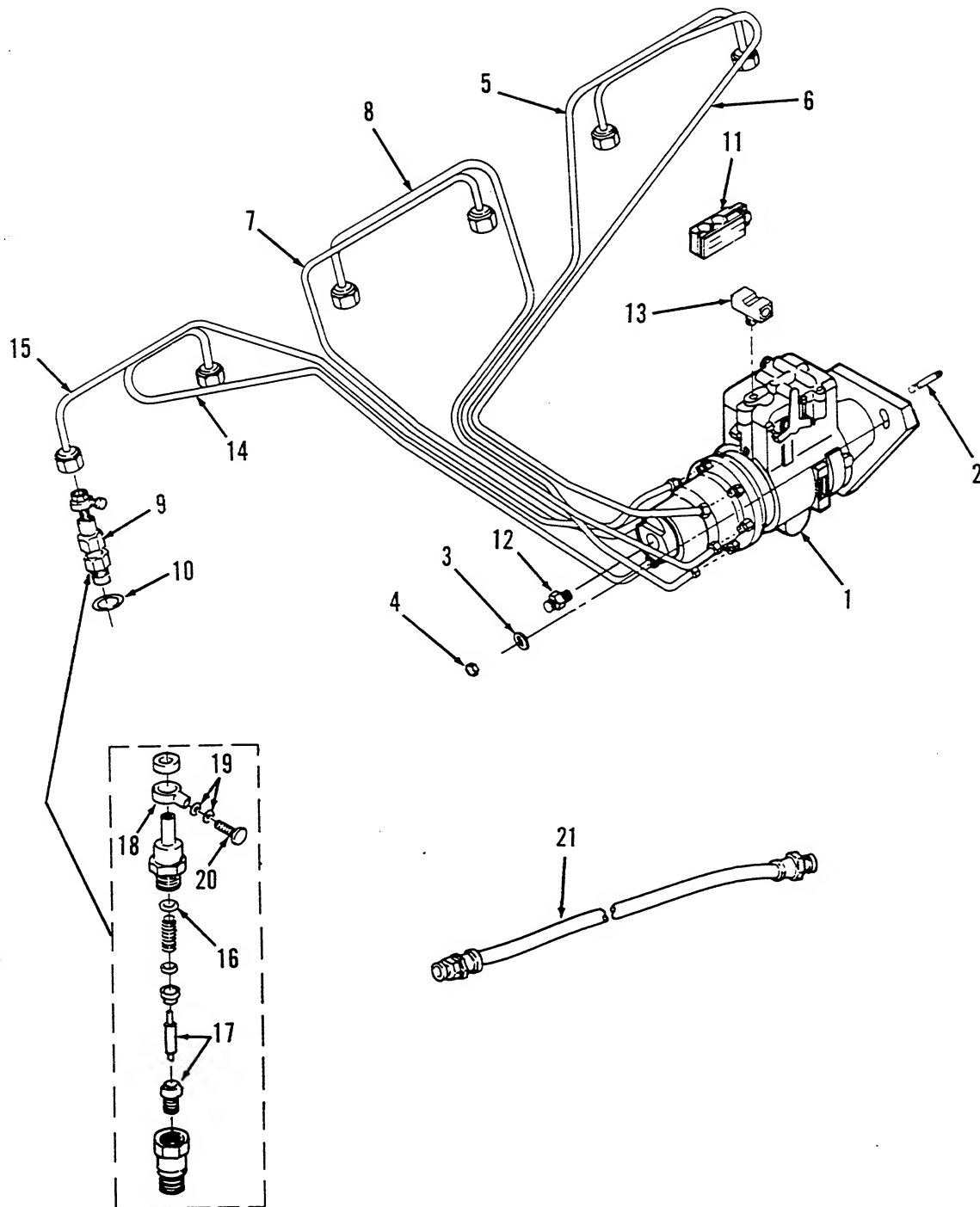
Electronic Governor



205C

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	151-0566	1	Actuator, Governor	12	813-0103	5	Screw, Machine - Round Head (#10-32 x 3/4")
2	800-0006	4	Screw, Cap - Hex Head (1/4-20 x 7/8")	13	850-0030	5	Washer, Lock - Spring (#10)
3	850-0040	4	Washer, Lock - Spring (1/4")	14	338-1705	1	Harness, Wiring - Includes Relay
4	150-1996	1	Bracket, Mounting	15	307-1886	1	Relay
5	151-0567	1	Arm, Governor (Includes Screw and Nut)	16	320-0540	1	Breaker, Circuit - 15 Amp (CB13) Includes Mounting Nuts
6	150-1923	1	Rod, Governor Control	17	338-1765-01	1	Cable, Magnetic Pickup (60")
7	800-2071	4	Screw, Cap - Hex Head (M8 x 90 MM)	18	151-0603-02	1	Sensor, Magnetic Speed
8	870-0131	2	Nut, Hex - with ET (#10-32)	19	800-0007	1	Screw, Cap - Hex Head (1/4-20 x 1")
9	150-0939	2	Joint, Ball	20	870-0065	1	Nut, Self-Locking (1/4-20)
10	151-0437	1	Kit, Throttle Modification (Fuel Injection Pump)	21	147-0779	1	Sleeve, Throttle Stop
11	151-0565	1	Control, Governor (A12) (Includes Jumper)	22	130-1107	2	Spacer

Fuel Injection

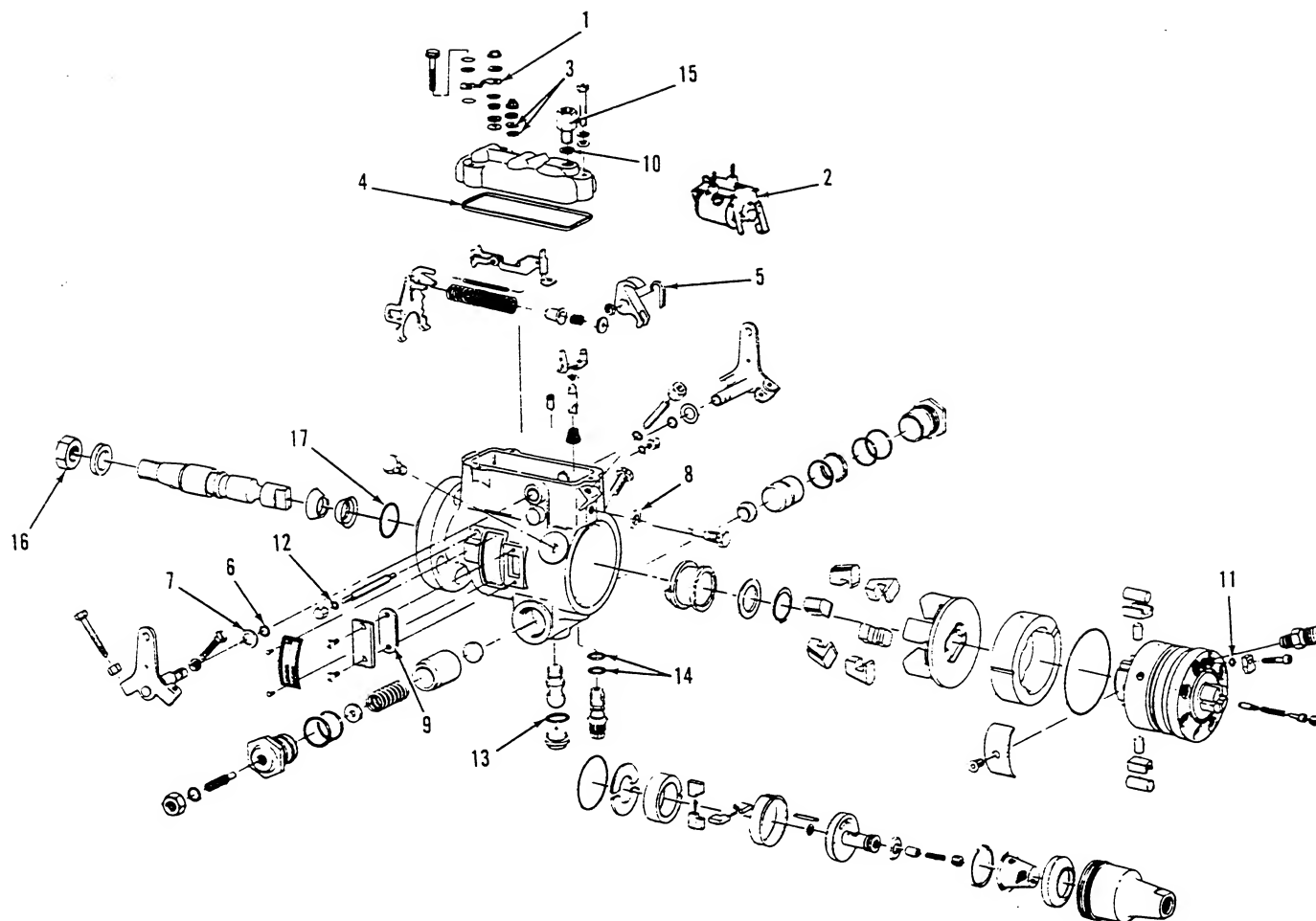


256A

Fuel Injection

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Pump, Fuel Injection (See Separate Page for Components)	16			Washer, Injection Nozzle Shim
	147-0464-05	1	1800 RPM		147-0617	As Req.	0.80 MM
	147-0464-06	1	1500 RPM		147-0618	As Req.	0.84 MM
2	520-2403	3	Stud, Injection Pump (M8)		147-0619	As Req.	0.88 MM
3	526-2106	3	Washer, Flat (M8)		147-0620	As Req.	0.92 MM
4	750-1006	3	Nut, Hex (M8)		147-0621	As Req.	0.96 MM
5	147-0666	1	Line, Fuel Injection (No. 1)		147-0622	As Req.	1.00 MM
6	147-0667	1	Line, Fuel Injection (No. 2)		147-0623	As Req.	1.04 MM
7	147-0668	1	Line, Fuel Injection (No. 3)		147-0624	As Req.	1.08 MM
8	147-0669	1	Line, Fuel Injection (No. 4)		147-0625	As Req.	1.12 MM
9	147-0562	6	Injector, Fuel (Includes Seal)		147-0626	As Req.	1.16 MM
10	147-0436	6	Seal, Injector		147-0627	As Req.	1.20 MM
11			Clamp, Fuel Line		147-0628	As Req.	1.24 MM
	147-0672	3	Clamps Two Lines		147-0629	As Req.	1.28 MM
	147-0673	2	Clamps Three Lines		147-0630	As Req.	1.32 MM
	147-0674	1	Clamps Six Lines		147-0631	As Req.	1.36 MM
12	502-0733	1	Connector		147-0632	As Req.	1.40 MM
13	502-0057	1	Tee, Pipe - Special		147-0633	As Req.	1.44 MM
14	147-0670	1	Line, Fuel Injection (No. 5)		147-0634	As Req.	1.48 MM
15	147-0671	1	Line, Fuel Injection (No. 6)		147-0635	As Req.	1.52 MM
					147-0636	As Req.	1.56 MM
					147-0637	As Req.	1.60 MM
					147-0638	As Req.	1.64 MM
					147-0639	As Req.	1.68 MM
					147-0640	As Req.	1.72 MM
					147-0641	As Req.	1.76 MM
					147-0642	As Req.	1.80 MM
					147-0643	As Req.	1.84 MM
					147-0644	As Req.	1.88 MM
					147-0645	As Req.	1.92 MM
					147-0646	As Req.	1.96 MM
				17	147-0647	6	Tip, Nozzle
				18	147-0766	6	Banjo
				19	147-0767	12	Washer
				20	147-0765	6	Screw, Hollow
				21	501-0094	1	Line, Flexible Fuel - 60" (Fuel Return)

Fuel Injection Pump Components

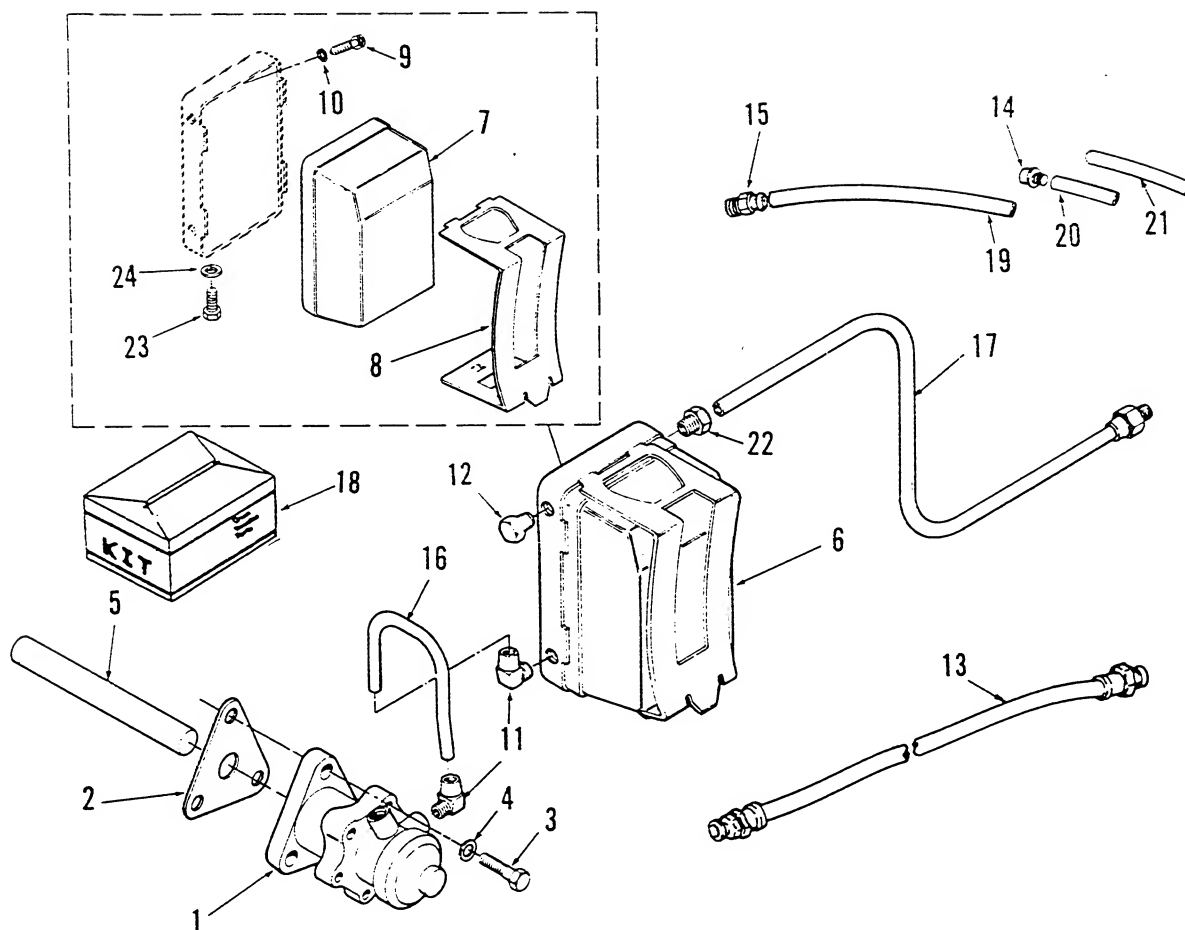


20A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Pump, Fuel Injection - Complete	10	147-0584	1	Seal, Return Line Connector
	147-0464-05	1	1800 RPM	11	147-0583	1	Seal, Locking Plate
	147-0464-06	1	1500 RPM	12	147-0582	2	Seal, Pivot Shaft
1	147-0592	1	Strap, Terminal Grounding	13	147-0581	1	Seal, Advance Screw Hole Plug
2	147-0593	1	Solenoid and Frame Kit	14	147-0580	2	Seal, Head Locating Screws
3	147-0591	2	Washer, Terminal Insulating	15	147-0579	1	Connector, Return Line
4	147-0590	1	Gasket, Governor Cover	16	147-0578	1	Nut, Drive Shaft
5	147-0589	1	Clip, Shaft Retaining	17	509-0265	1	Seal, Pilot Tube
6	147-0588	2	Seal, Throttle Shaft				
7	147-0587	2	Washer, Throttle Shaft Seal				
8	147-0586	1	Washer, Guide Stud				
9	147-0585	1	Gasket, Timing Line Cover				

Note: For component parts not listed contact manufacturer shown on nameplate.

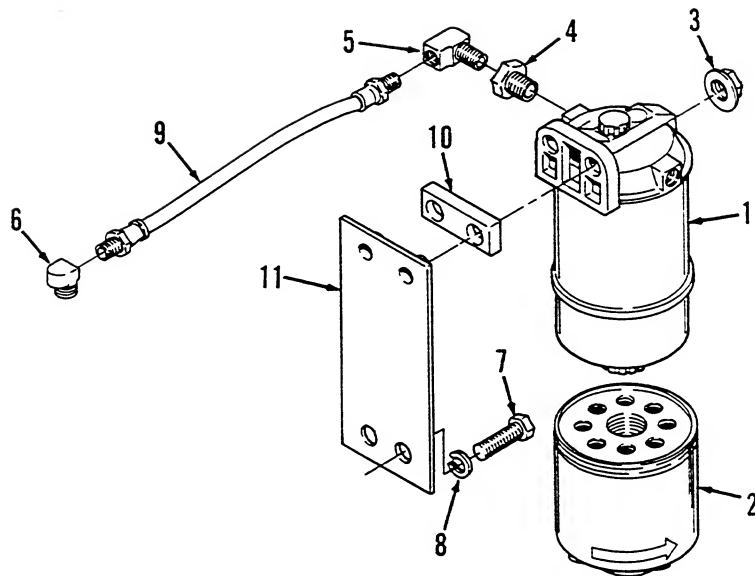
Fuel System



268A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	149-2067	1	Pump Kit, Fuel Transfer (Includes Mounting Gasket)	14	502-0736	1	Plug
2	149-1728	1	Gasket, Fuel Transfer Pump	15	502-0738	1	Connector, Male
3	718-1021	3	Screw, Cap - Hex Head (M6 x 20 MM)	16	149-1797	1	Line, Fuel
4	740-1004	3	Washer, Flat (M6)	17	149-1796	1	Line, Fuel
5	149-1732	1	Pushrod, Fuel Transfer Pump	18	149-2069	1	Repair Package - Transfer Pump
6	149-1755	1	Filter Assembly (Includes Filter, Base, Clamp, Drain Plug, Drain Seal and Plugs)	19	503-1055	1	Line, Fuel Return (Flexible) 380 MM Long
7	149-1754	1	Filter, Fuel	20	503-1054	1	Line, Fuel Return (Flexible) 25 MM Long
8	149-1801	1	Clamp, Fuel Filter	21	503-1053	5	Line, Fuel Return (Flexible) 180 MM Long
9	725-1074	2	Screw, Cap - Socket Head (M10 x 20 MM)	22	502-0773	1	Connector, Flareless Tube Fitting (Includes Sleeve and Nut)
10	740-1008	2	Washer, Flat (M10)	23	149-1835	1	Plug, Filter Drain
11	502-0774	2	Elbow, Flareless Tube Fitting (Includes Sleeve and Nut)	24	149-1836	1	Gasket, Filter Drain Plug
12	502-0153	2	Plug, Pipe (1/4")				
13	501-0441	1	Line, Flexible Fuel - 40" (Fuel Supply)				

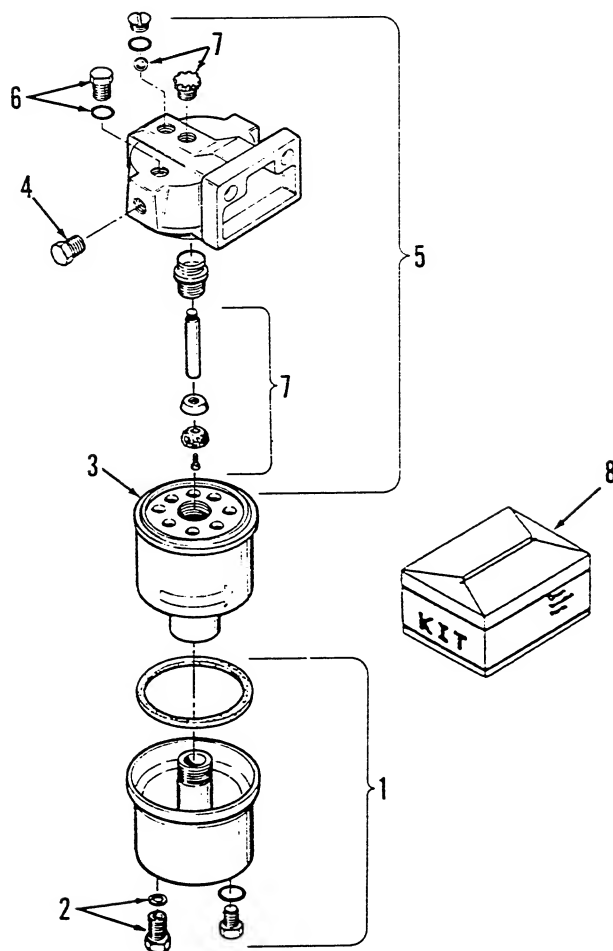
Water Separator



211A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	149-1908-05	1	Separator, Water (Includes Filter Element) (See Separate Page for Components)	6	502-0041	1	Elbow, Male - Inverted
2	149-1914-01	1	Element	7	800-2110	2	Screw, Cap - Hex Head (M12 x 20 MM)
3	870-0257	2	Nut, Self-locking (Flange) (5/16-18)	8	850-2012	2	Washer, Lock - Spring (M12)
4	502-0029	1	Bushing, Reducer (1/4 to 1/8")	9	501-0003	1	Line, Fuel - Flexible (9")
5	502-0020	1	Elbow, Street - 90° (1/8")	10	149-1922	1	Spacer, Mounting
				11	149-2040	1	Bracket, Mounting

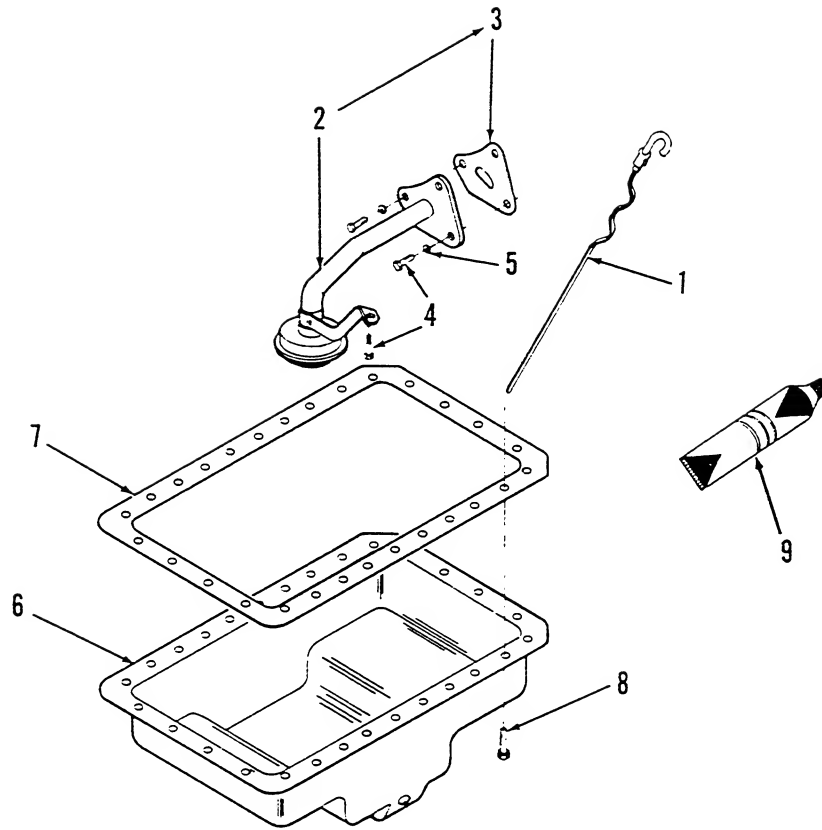
Water Separator Components



FS-1631-2

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	149-1908-05	1	Separator, Water (Complete)	6	149-1952	1	Plug, Vent (Includes O-Ring)
1	149-2046	1	Bowl Kit, Metal - Replacement (Includes Plug, O-Rings and Drain Assembly)	7	149-2047	1	Pump Assembly (Includes Plunger, Retainer, Shaft, Check Ball, Knob and Screw)
2	149-1953	1	Drain Assembly (Includes Knob and Seal)	8	149-2045	1	O-Ring Kit (Includes Seal and Plunger)
3	149-1914-01	1	Element (Includes Seals)				
4	502-0153	1	Plug, Hex (1/4")				
5	149-1949	1	Head Assembly - Replacement (Includes Vent Plug, O-Rings, Seal, Cap, Tube and Pump Assembly)				

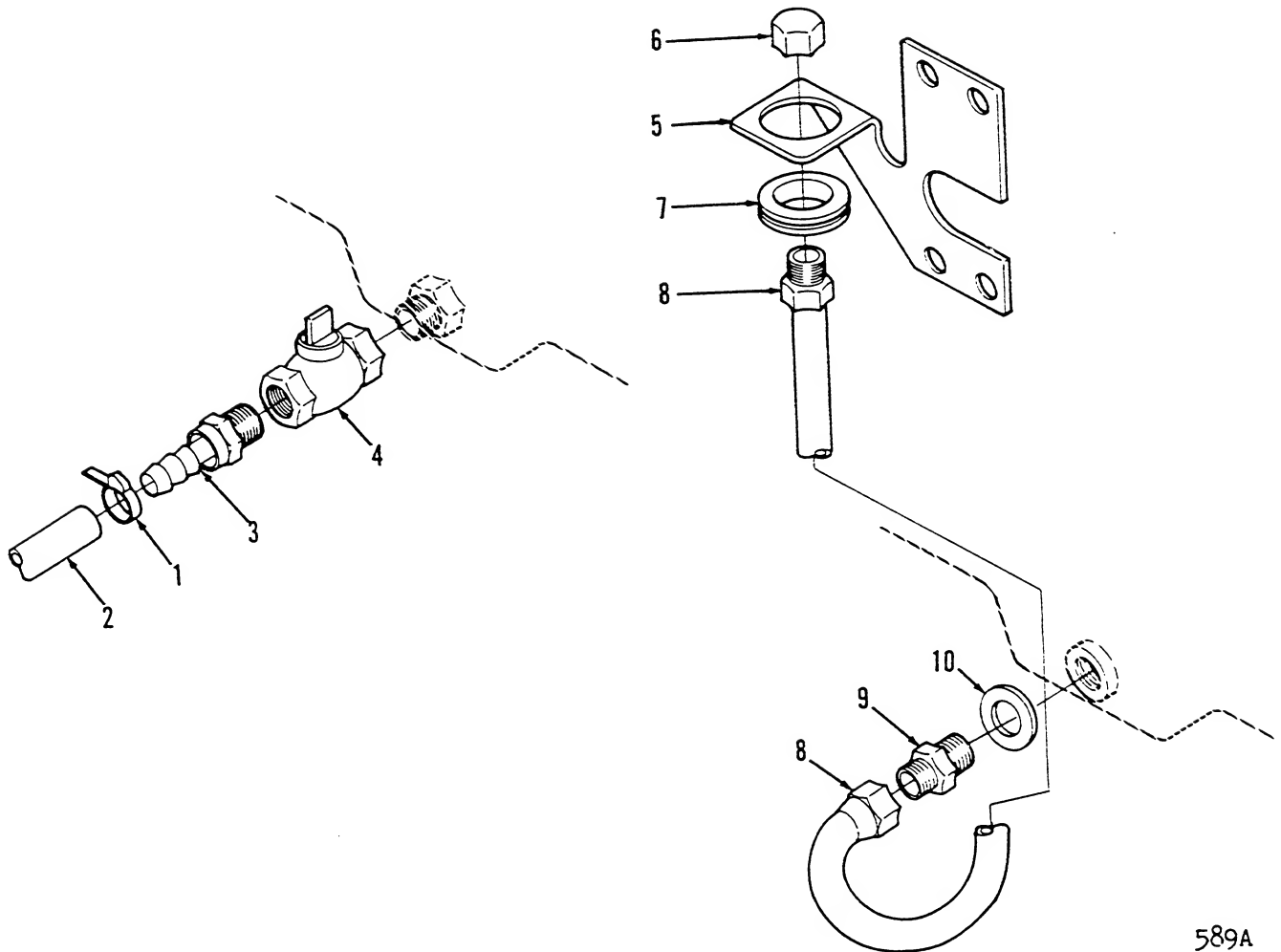
Oil Pan



66A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	123-1524	1	Indicator, Oil Level	5	740-1006	4	Washer, Flat (M8)
2	120-1006	1	Pickup Kit, Oil (Includes Gasket)	6	102-1190	1	Pan, Oil
3	120-0917	1	Gasket, Oil Pickup	7	102-1036	1	Gasket, Oil Pan (Spec C and D)
4			Screw, Cap - Hex Head	8	815-0547	36	Screw, Cap - Hex Head (M8 x 20 MM) Includes Washer
	718-1046	2	M8 x 70 MM	9	541-0286	1	Kit, RTV Sealant - Oil Pan Mounting - Spec E
	718-1036	2	M8 x 20 MM				

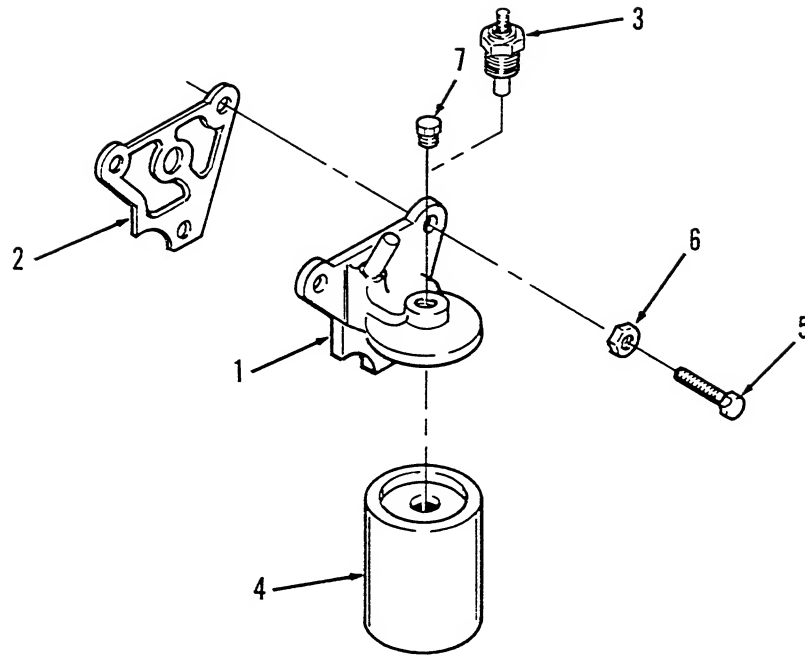
Oil Drain Hardware



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0382	1	Clamp, Hose - Spec C
2	503-1276	1	Hose, Oil Drain (14") - Spec C
3	502-0415	1	Adapter, Pipe to Hose - Spec C
4	504-0011	1	Valve, Shutoff - Spec C
5	102-1235	1	Bracket, Oil Drain - Begin Spec D

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
6	502-0876	1	Cap, Pipe - Begin Spec D
7	508-0250	1	Grommet - Begin Spec D
8	501-0482	1	Line, Oil Drain (24") - Begin Spec D
9	102-1237	1	Adapter, Oil Drain - Begin Spec D
10	102-1147	1	Gasket - Begin Spec D

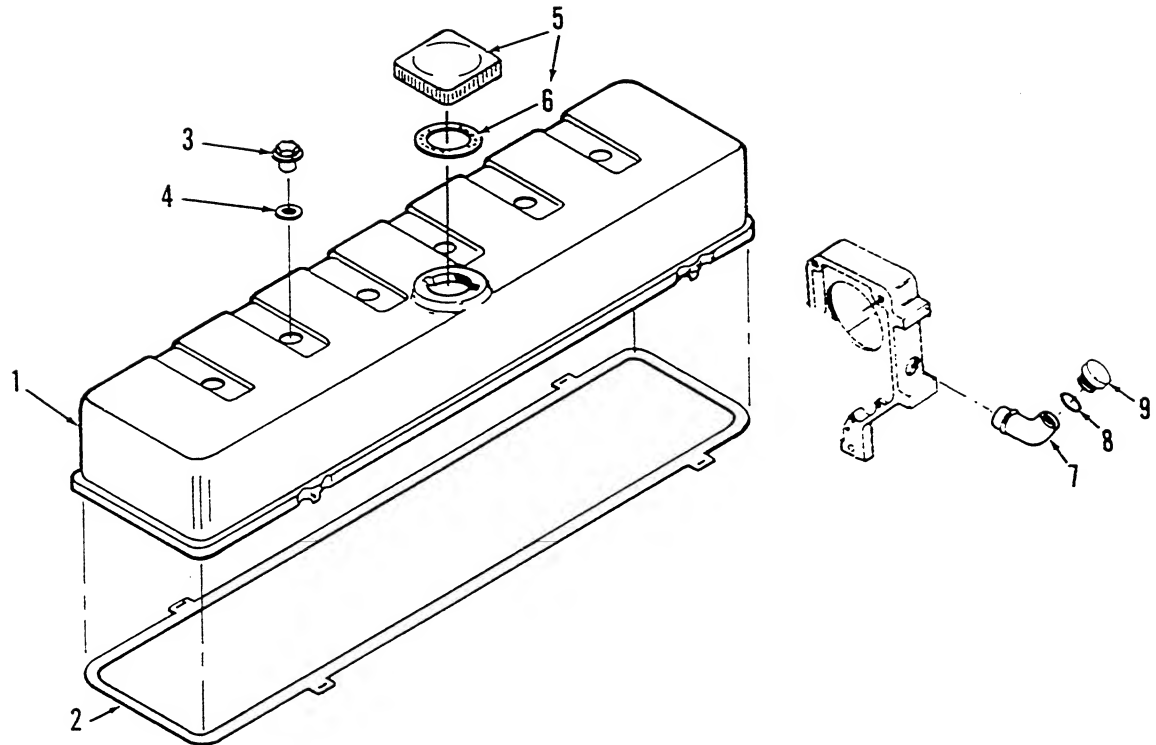
Oil Filter



479A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	122-0613	1	Adapter, Oil Filter (Includes Gasket)	4	122-0550	1	Filter, Oil
2	122-0635	1	Gasket, Adapter	5	725-1051	3	Screw, Cap - Socket Head (M8 x 25 MM)
3	193-0353	1	Sender, Oil Temperature (E3) Controls With 2 Indicator Lights and Oil Temperature Gauge	6	526-2108	3	Washer, Flat (M8)
				7	505-0274	1	Plug, Pipe - Countersunk (1/8")

Oil Fill

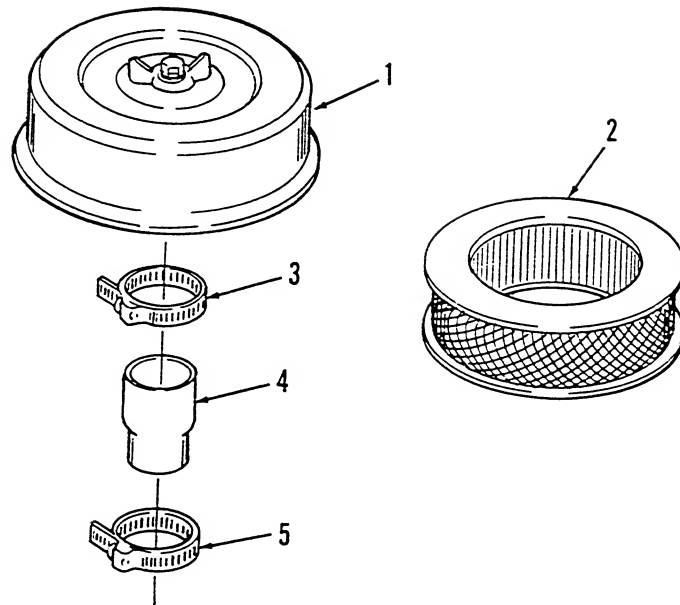


65A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	115-0346	1	Cover, Rocker
2	115-0244	1	Gasket, Rocker Cover
3	115-0320	6	Capnut, Rocker Cover
4	115-0232	6	Gasket, Capnut
5	123-1605	1	Cap, Oil Fill (Includes Gasket)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
6	123-1518	1	Gasket, Oil Fill Cap
7	123-1558	1	Tube, Oil Fill
8	509-0142	1	Seal, O-Ring
9	123-1647	1	Cap, Oil Fill

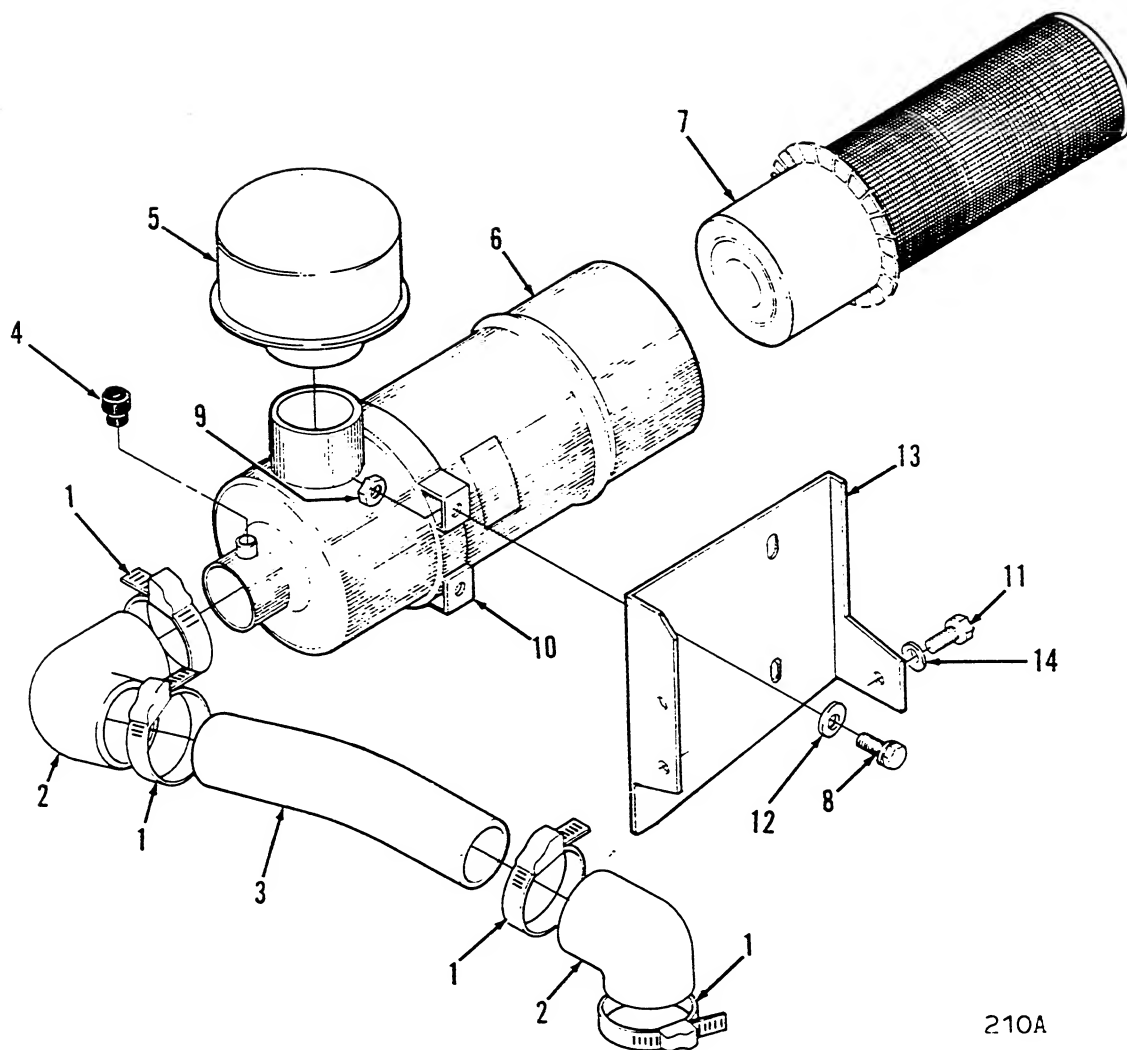
Air Cleaner (Standard)



213A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	140-1091	1	Cleaner Assembly, Air (Includes Element)	3	503-0648	1	Clamp, Hose
2	140-1089	1	Element	4	503-1181	1	Hose, Reducing
				5	503-0465	1	Clamp, Hose

Air Cleaner (Heavy Duty)

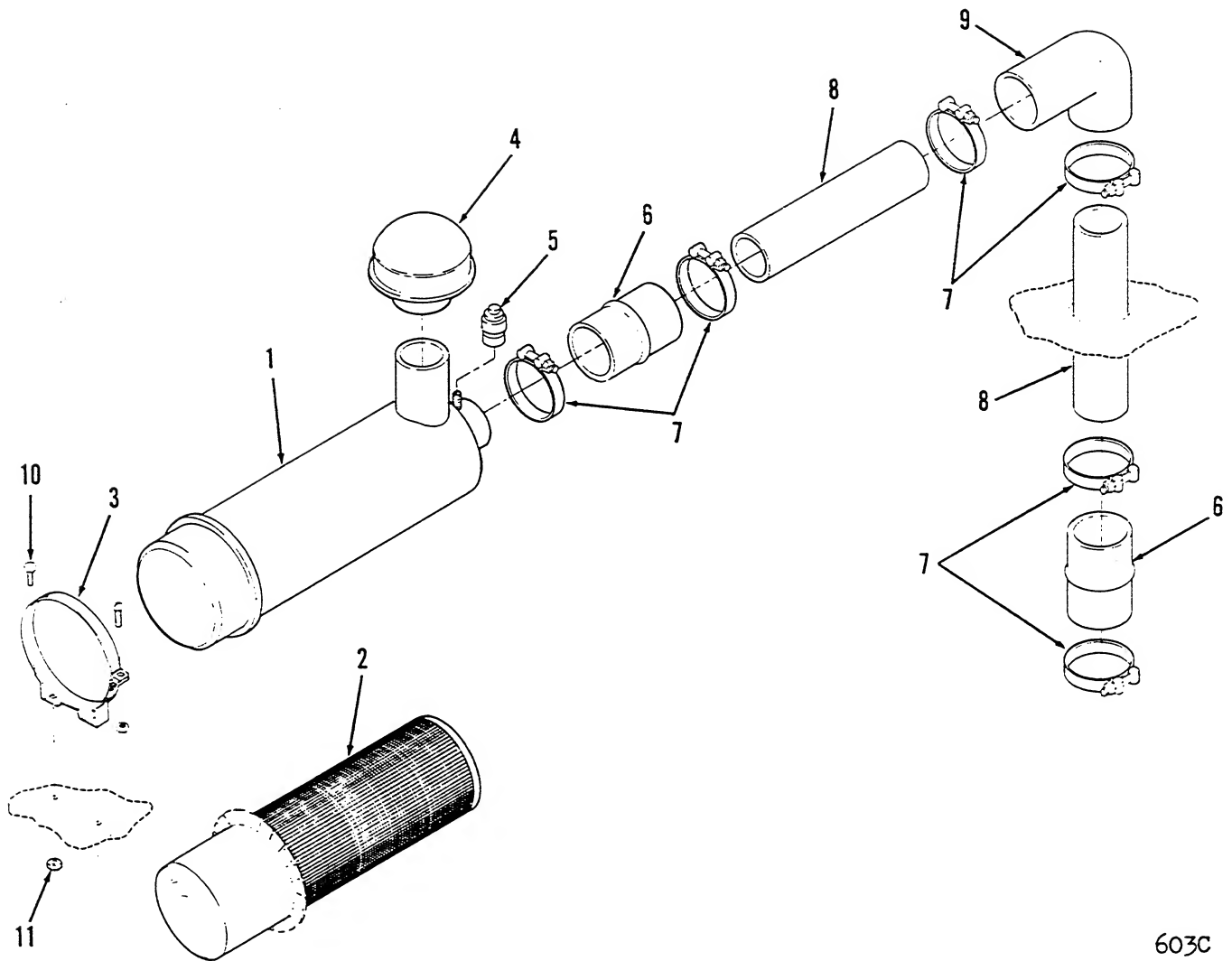


210A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0354	4	Clamp, Hose
2	503-1222	2	Elbow, 90°
3	140-1845	1	Tube, Intake
4	140-1791	1	Indicator, Service
5	140-1787	1	Hood, Air Cleaner
6	140-1841	1	Cleaner, Air (Includes Element)
7	140-1851	1	Element
8	718-1036	4	Screw, Cap - Hex Head (M8 x 20 MM)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
9	750-1006	4	Nut, Hex (M8)
10	140-0722	2	Band, Mounting
11	718-1073	1	Screw, Cap - Hex Head (M12 x 25 MM)
12	740-1006	4	Washer, Flat (M8)
13	140-1847	1	Bracket, Mounting
14	740-1010	1	Washer, Flat (M12)

Air Cleaner (Housed Sets)

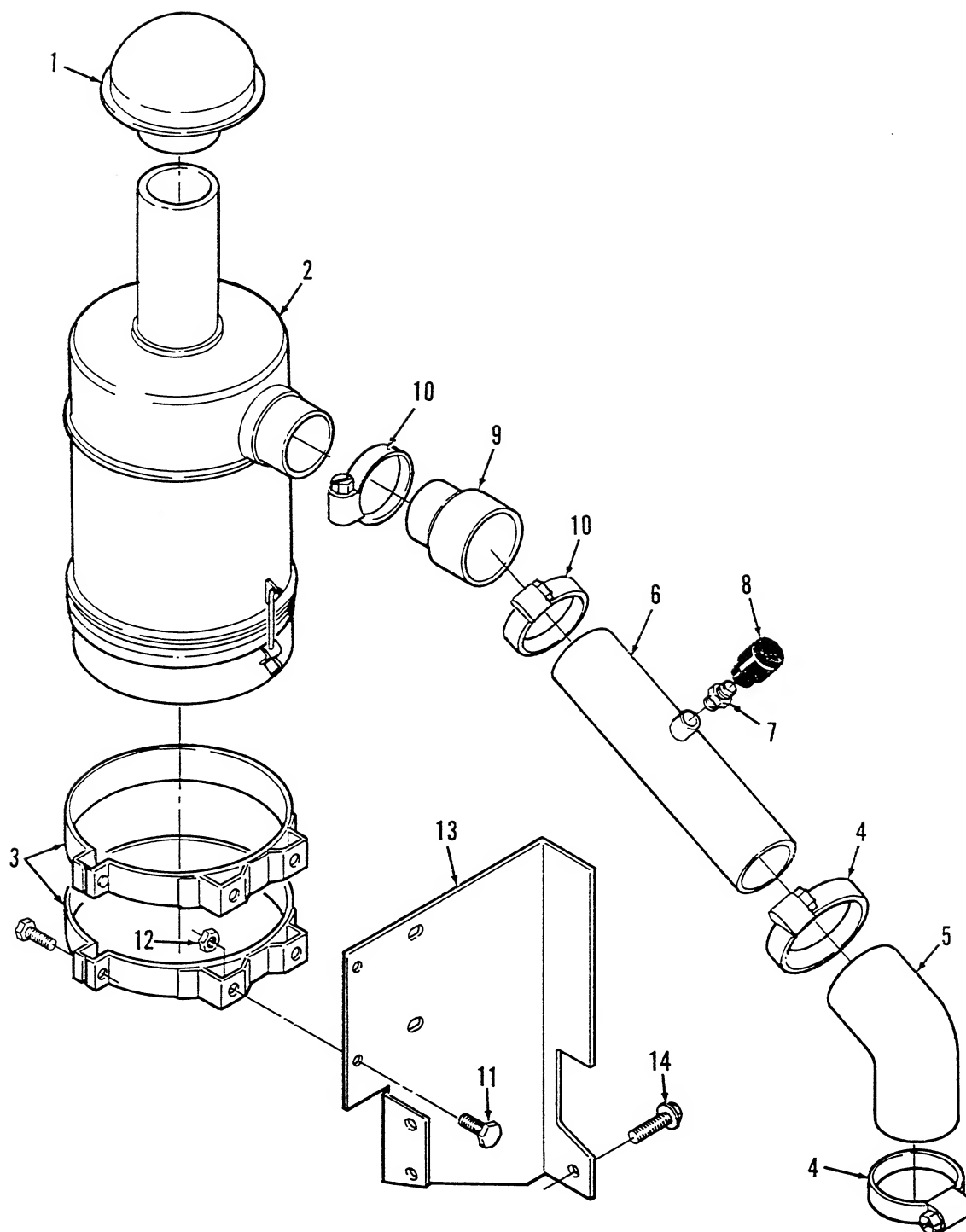


603C

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	140-1841	1	Cleaner, Air (Includes Element)
2	140-1851	1	Element
3	140-0722	2	Band, Mounting
4	140-1787	1	Hood, Air Cleaner
5	140-1791	1	Indicator, Service
6	503-0625	2	Hose (2-1/2" ID x 4-1/2")

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
7	503-0867	6	Clamp, T-Bolt
8	140-2267	2	Tube, Air Inlet
9	503-1222	1	Elbow
10	821-0016	4	Screw, Self-Locking - Hex Washer Head (5/16-18 x 3/4")
11	870-0257	4	Nut, Locking - Hex Head (5/16-18)

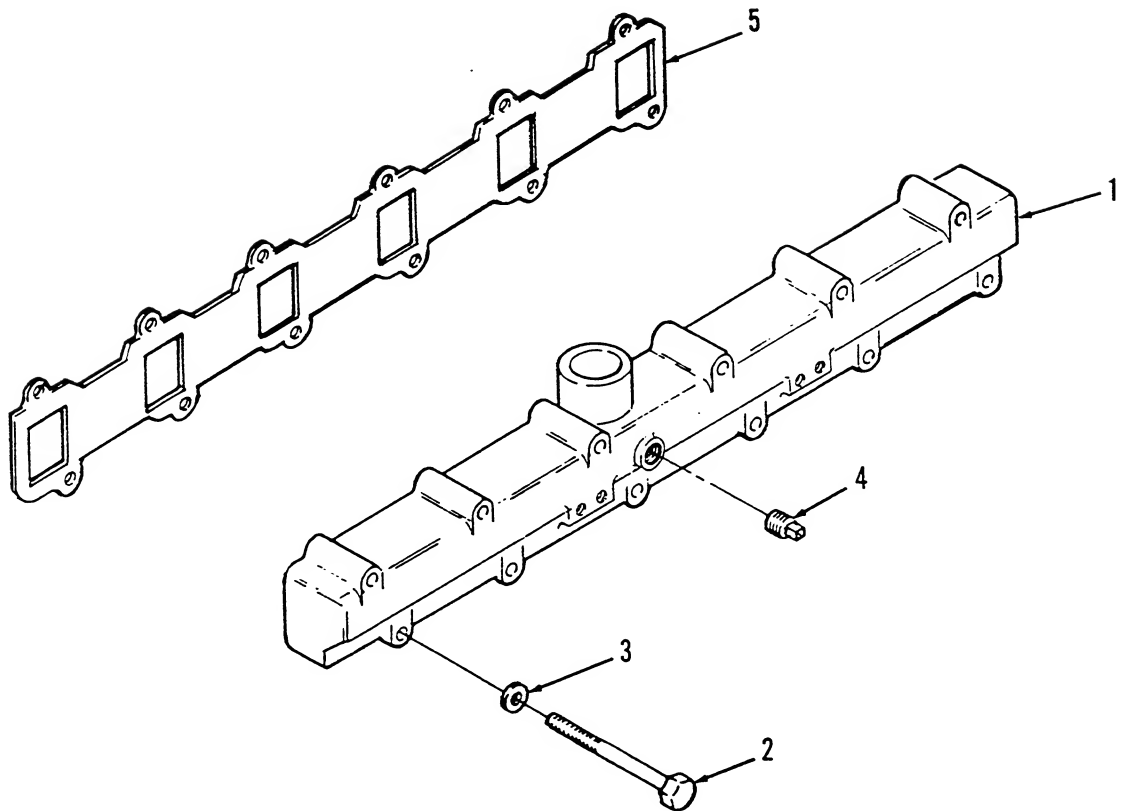
Air Cleaner (Oil Bath)



604B

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	140-1559	1	Hood	10	503-0465	2	Clamp
2	140-2174	1	Cleaner, Air - Oil Bath	11	821-0014	4	Screw, Self-Locking - Hex Washer Head (5/16-18 x 1/2")
3	140-2233	2	Band, Mounting	12	870-0257	4	Nut, Locking - Hex Head (5/16-18)
4	503-1143	2	Clamp	13	140-2235	1	Bracket, Mounting
5	503-1084	1	Elbow, Reducer	14	821-2076	1	Screw, Self-Locking - Hex Washer Head (M12 x 25 MM)
6	140-2234	1	Tube, Air Inlet				
7	140-1260	1	Fitting, Service Indicator				
8	140-1791	1	Indicator, Service				
9	503-1074	1	Hose, Reducer				

Intake Manifold



587A

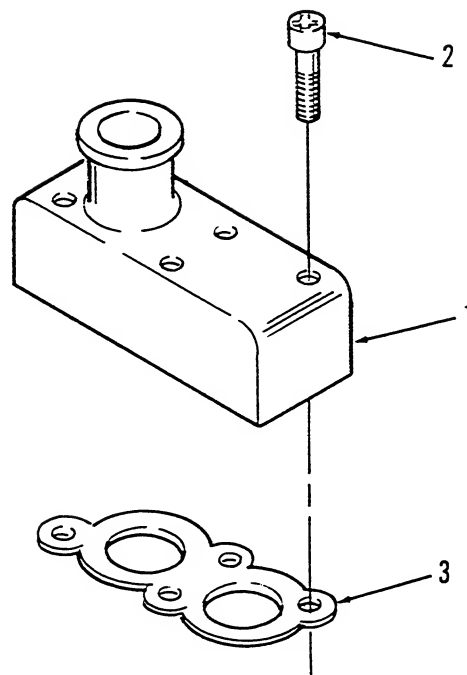
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	154-2461	1	Manifold, Intake	3	740-1006	12	Washer, Flat (M8)
	154-2604	1	Spec C and D (Includes Plug)	4	505-0274	1	Plug, Pipe (1/8")
2	718-1801	12	Spec E	5	154-2300	1	Gasket, Intake Manifold
	718-1801	6	Screw, Cap - Hex Head				
	718-1042	6	Spec C and D (M8 x 85 MM)				
			Spec E				
			M8 x 85 MM				
			M8 x 50 MM				

This exploded view diagram illustrates the assembly of a mechanical component. The main assembly consists of a central shaft (1) with a flange (8) and a mounting bracket (9). A bolt (6) and washer (7) are used to secure the flange. A long bolt (3) and a nut (4) are used to secure the mounting bracket. A large plate (5) is attached to the side of the shaft. Several small rectangular components (2) are shown being attached to the shaft and the plate. The diagram uses dashed lines to show the alignment and assembly sequence of the parts.

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	154-2389	1	Manifold, Exhaust
2	154-2162	4	Gasket, Exhaust Manifold
3	800-2524	12	Screw, Cap - Hex Head (M8 x 90 MM)
4	740-1006	12	Washer, Flat (M8)
5	154-2325	1	Gasket, Exhaust Manifold

29

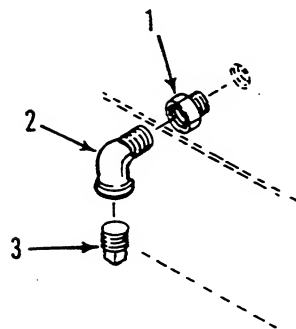
Coolant Outlet Connector



207A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	309-0473	1	Cover, Thermostat(Includes Gasket)
2	725-1056	4	Screw, Cap - Socket Head (M8 x 50MM)
3	309-0424	1	Gasket, Thermostat Cover

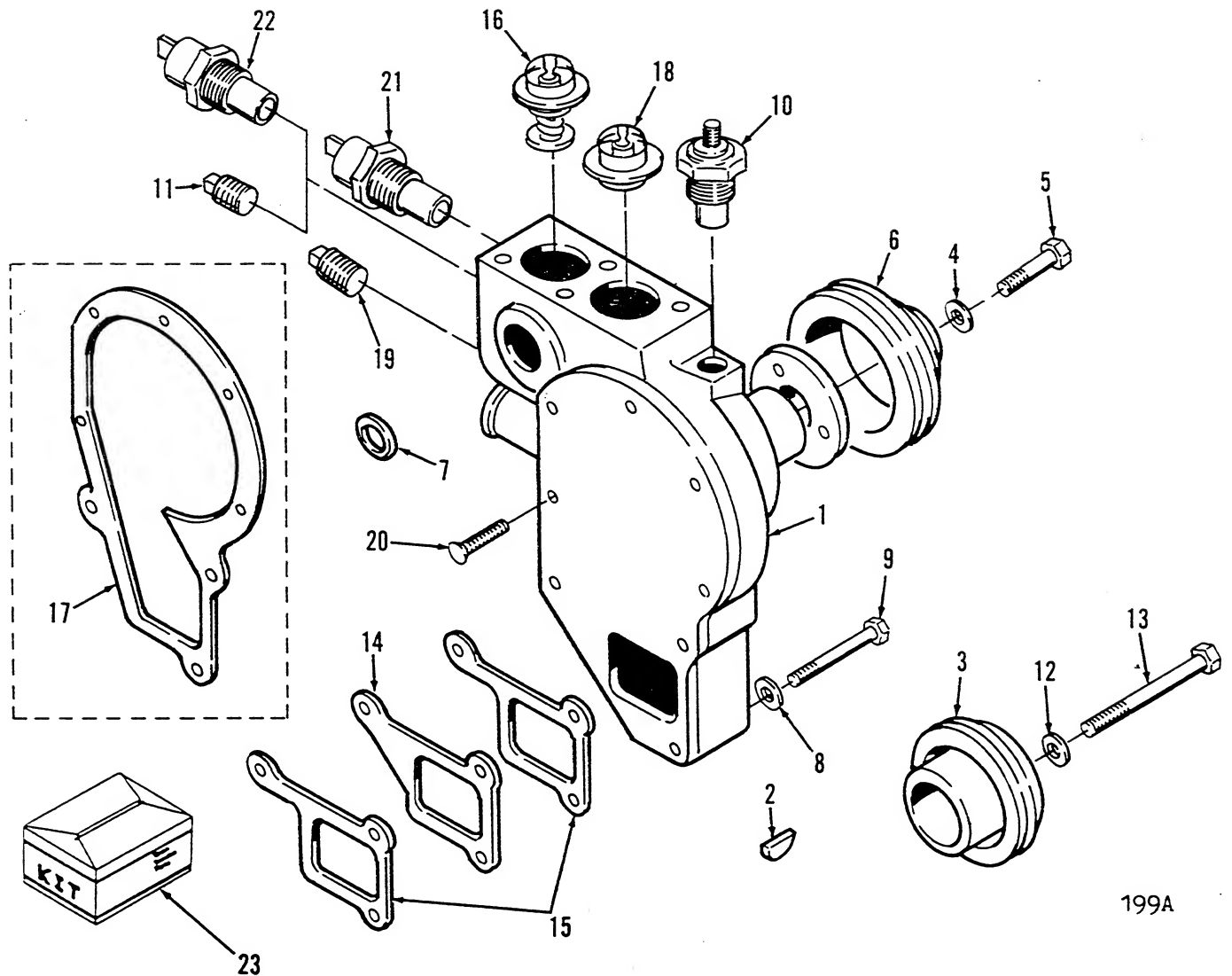
Coolant Heater Connection (Begin Spec D)



224A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	505-0017	1	Bushing
2	502-0156	1	Elbow, Street
3	502-0153	1	Plug, Brass

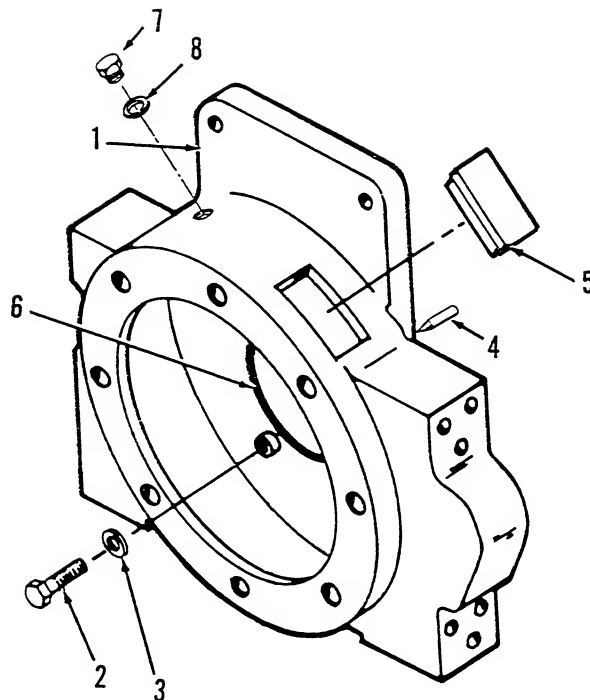
Coolant Pump



199A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	131-0351	1	Kit, Coolant Pump (Includes Mounting Gaskets)	17	131-0335	1	Gasket, Backplate
2	515-0245	1	Key - Crankshaft Pulley	18	309-0462	1	Kit, Thermostat (180°) Includes Cover Gasket
3	104-1472	1	Pulley, Crankshaft	19	502-0317	1	Plug, Pipe (3/4")
4	740-1006	4	Washer, Flat (M8)	20	815-0612	5	Screw, Countersunk - Flat Head - Torque Drive (Special)
5	718-1035	4	Screw, Cap - Hex Head (M8 x 16 MM)	21	309-0437	1	Switch, Thermostat - High Engine Coolant Temperature (S2) (Opens at 202° F. - Closes at 222° F.)
6	131-0342	1	Pulley, Coolant Pump	22	309-0436	1	Switch, Thermostat - High Engine Coolant Temperature (S6 - Pre-Alarm) (Opens at 196° F. - Closes at 216° F.) Controls With 7, 9 or 12 Indicator Lights
7	509-0264	1	Seal, O-Ring	23	541-0214-04	1	Kit, Repair (Includes Gaskets, Seal, Hub, Bearing, Impeller and Backplate Mounting Screws)
8	740-1006	3	Washer, Flat (M8)				
9	718-1044	3	Screw, Cap - Hex Head (M8 x 60 MM)				
10	193-0318	1	Sender, Water Temperature (E2)				
11	502-0775	1	Plug, Pipe (3/8") Controls with 2 Indicator Lights				
12	526-0283	1	Washer, Flat (M8)				
13	720-1123	1	Screw, Cap - Hex Head (M16 x 60 MM)				
14	131-0324	1	Spacer, Coolant Pump				
15	131-0294	2	Gasket, Pump Mounting				
16	309-0458	1	Kit, Thermostat (192°) (Includes Cover Gasket)				

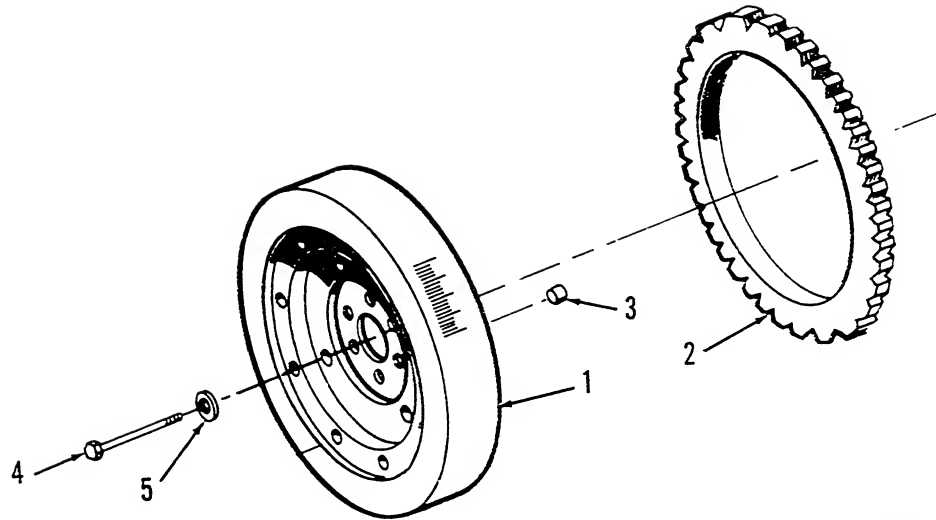
Flywheel Housing



299A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Housing, Flywheel (Includes Seal and Indicator)	3	740-1801	6	Washer, Flat (M12)
	101-0740-01	1	Spec C	4	160-1292	1	Indicator, Timing
	101-0740-02	1	Begin Spec D	5	101-0592	1	Plug, Timing Window
2	718-1078	6	Screw, Cap - Hex Head (M12 x 50 MM)	6	101-0630	1	Seal, Flywheel Housing
				7	505-2012	1	Plug, Hex
				8	740-1014	1	Washer, Flat (M16)

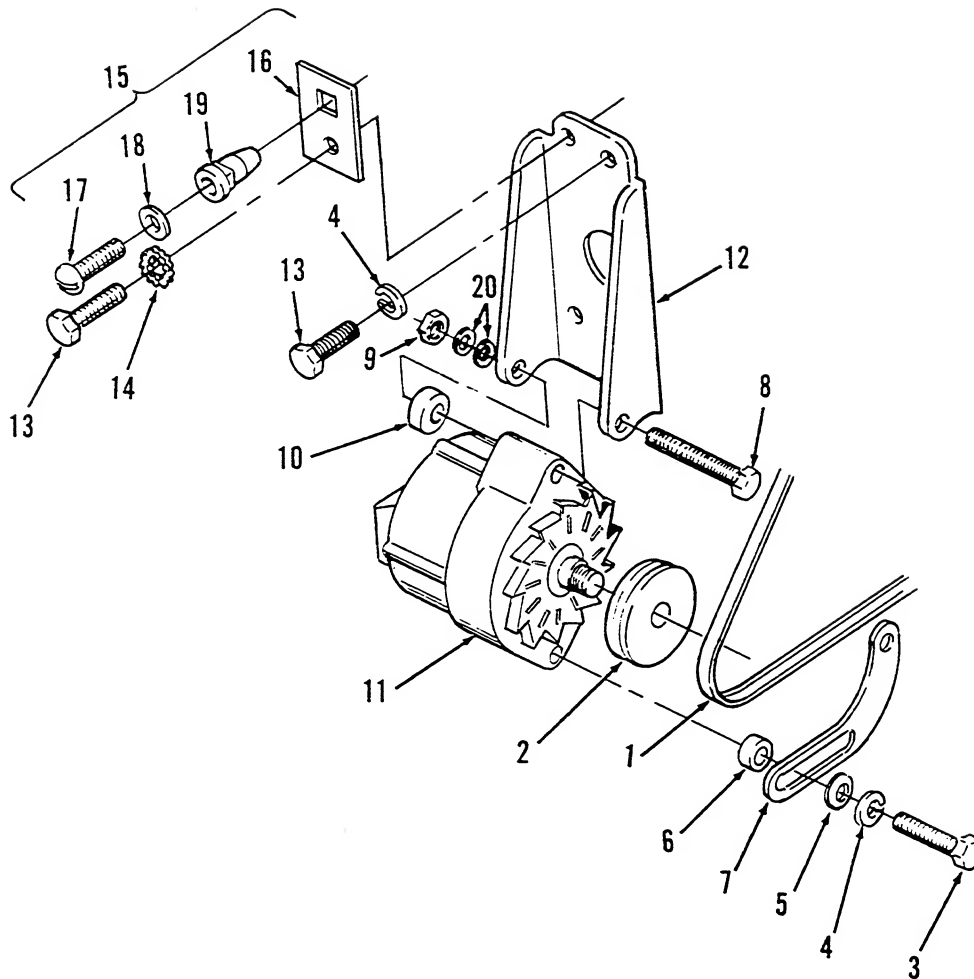
Flywheel1



298A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	104-1503	1	Flywheel Assembly (Includes Ring Gear and Alignment Pin)	4	720-1804	6	Screw, Cap - Flange Hex Head (M10 x 38 MM)
2	104-1185	1	Gear, Ring	5	740-1008	6	Washer, Flat (M10)
3	104-1171	1	Pin, Alignment				

Alternator

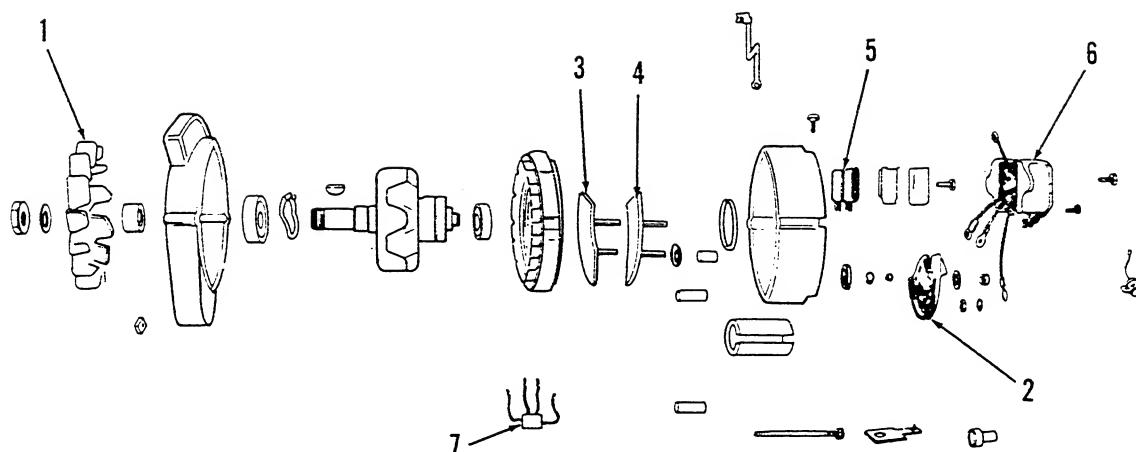


202A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	511-0147-13	1	Belt	12	191-1332	1	Bracket, Mounting
2	191-1339	1	Pulley	13	718-1037	4	Screw, Cap - Hex Head (M8 x 25 MM)
3	800-2060	1	Screw, Cap - Hex Head (M8 x 35 MM)	14	856-0010	1	Washer, Lock - EIT (3/8")
4	850-2008	4	Washer, Lock - Spring (M8)	15	332-1292	1	Terminal Assembly (Includes Parts Marked *)
5	526-2106	1	Washer, Flat (M8)	16	332-1281	1	*Bracket, Terminal
6	191-1541	1	Spacer	17	809-0035	1	*Screw, Sheet Metal - Round Head (#8 x 3/4")
7	191-1312	1	Strap, Adjusting	18	508-0015	1	*Washer, Fiber
8	800-2100	1	Screw, Cap - Hex Head (M10 x 100 MM)	19	870-0196	1	*Nut, Insulation
9	860-2009	1	Nut, Hex (M10)	20	740-1008	2	Washer, Flat (M10)
10	191-1321	1	Spacer				
11	191-1525	1	Alternator (37 Amp) (G1) See Separate Page for Components				

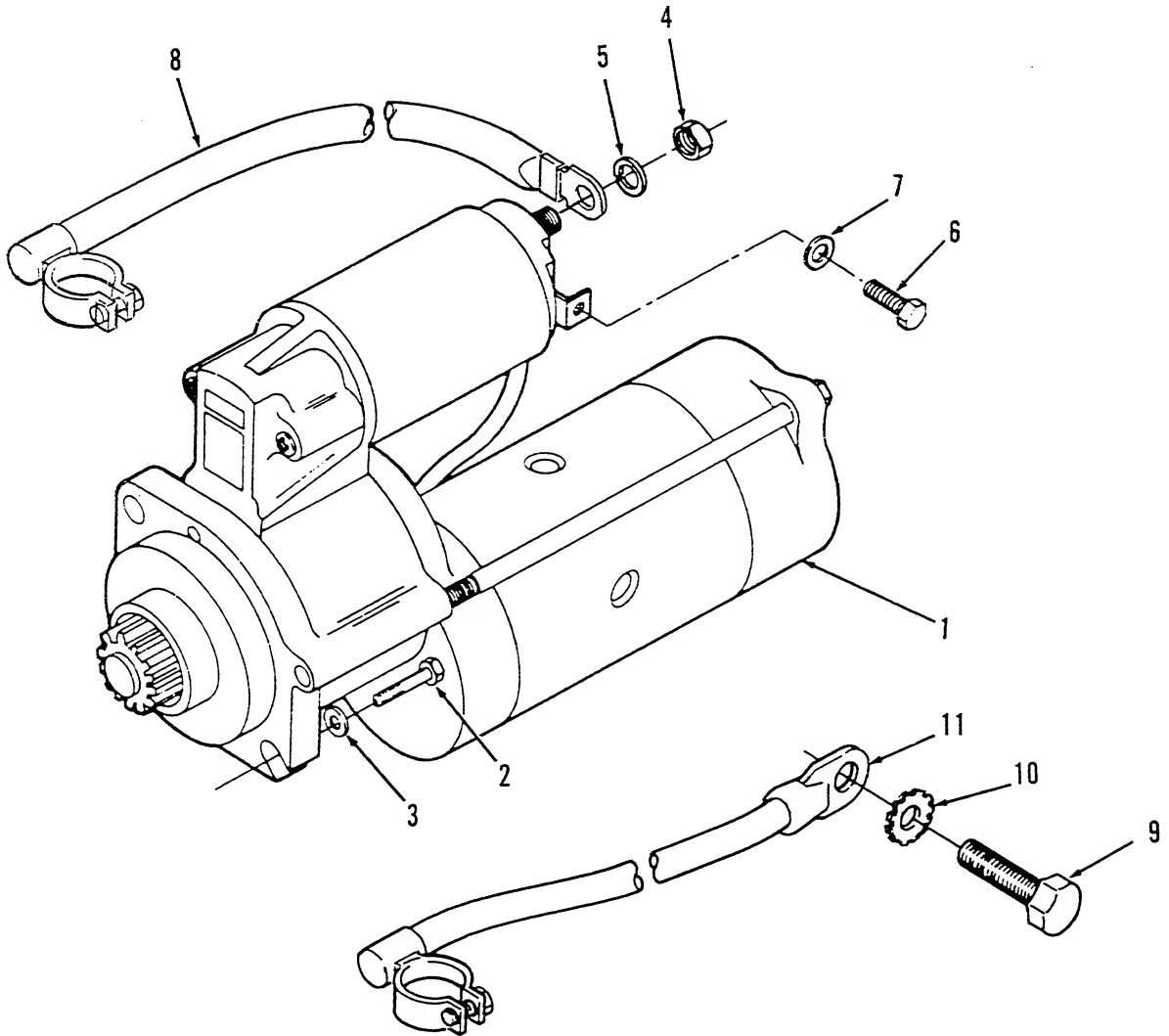
* - Parts Included in 332-1292 Terminal Assembly

Alternator Components



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	191-1525	1	Alternator (Complete) Used Beginning on Late Spec C Models - Has No Isolation Diodes on Back Side of Alternator (Replaces Early Spec C Models with Isolation Diode Assembly on Back Side of Alternator)	5			Brush Assembly Spec C
1	191-0943	1	Fan, Alternator		191-0659	1	Used on Early Spec C Models with Isolation Diode Assembly
2	191-1454	1	Diode Assembly, Isolation - Used on Early Spec C Models		191-1558	1	Used on Late Spec C Models without Isolation Diode Assembly
3			Diode, Rectifier - Negative Spec C		191-1558	1	Begin Spec D
	191-1453	1	Used on Early Spec C Models with Isolation Diode Assembly	6			Regulator, Voltage Spec C
	191-1560	1	Used on Late Spec C Models without Isolation Diode Assembly		191-1457	1	Used on Early Spec C Models with Isolation Diode Assembly
	191-1560	1	Begin Spec D		191-1557	1	Used on Late Spec C Models without Isolation Diode Assembly
4			Diode, Rectifier - Positive Spec C		191-1557	1	Begin Spec D
	191-1452	1	Used on Early Spec C Models with Isolation Diode Assembly	7	191-1556	1	Diode, Trio - Used Beginning on Late Spec C Models Without Isolation Diode Assembly
	191-1559	1	Used on Late Spec C Models without Isolation Diode Assembly				
	191-1559	1	Begin Spec D				

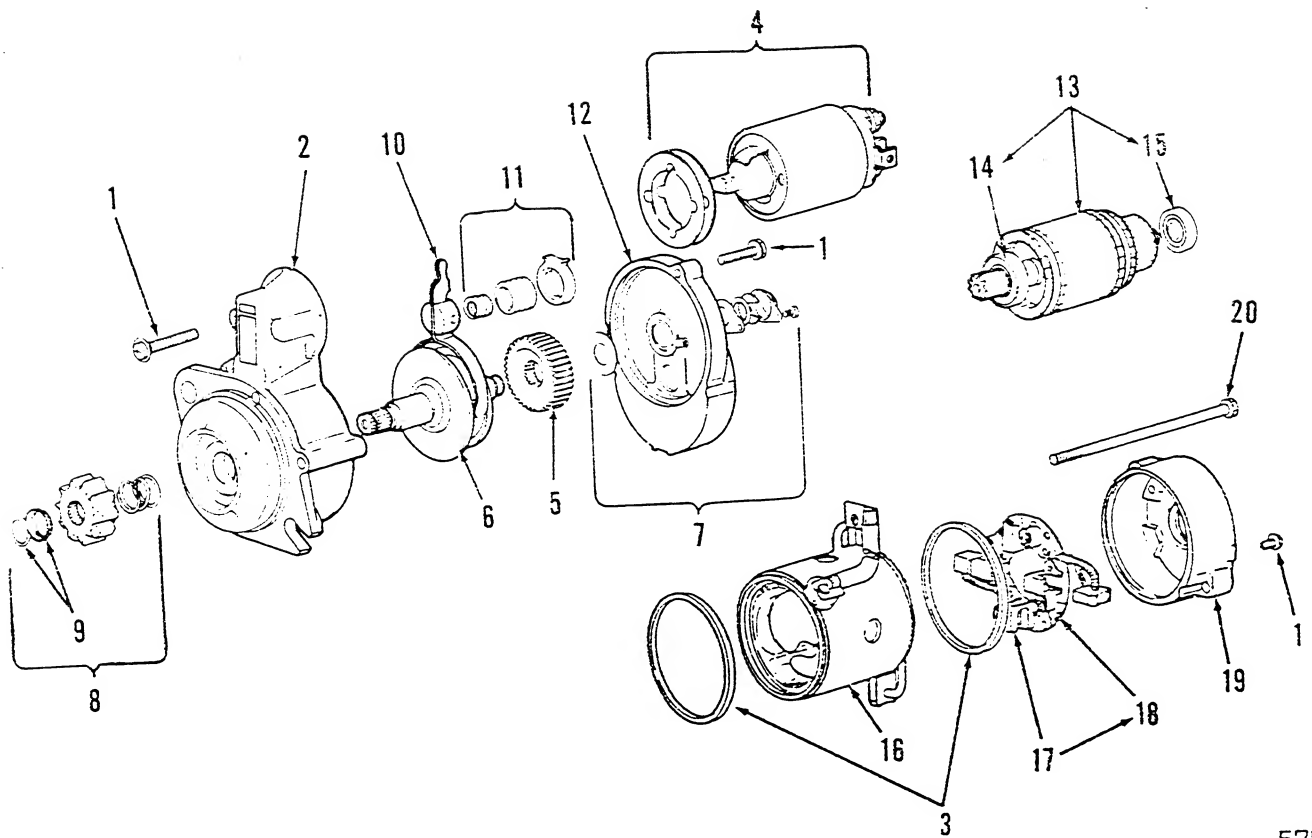
Starter



260A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Starter (B1) (Includes Switch Terminal Hardware) (See Separate Page for Components)	6	718-1002	1	Screw, Cap - Hex Head (M5 x 8 MM) Solenoid Terminal
	191-1394	1	Used Spec C through Early Portion of Spec D	7	850-2005	1	Washer, Lock - Spring (M5) Solenoid Terminal
	191-1888	1	Use Began During Later Portion of Spec D	8	416-0618	1	Cable, Battery - 42" (Positive)
2	720-1806	2	Screw, Cap - Flanged Hex Head (M12 x 30 MM)	9	800-2110	1	Screw, Cap - Hex Head (M12 x 20 MM)
3	740-1010	2	Washer, Flat (M12)	10	853-2012	1	Washer, Lock - ET (M12)
4	860-2008	1	Nut, Hex (M8) B+ Terminal	11	416-0530	1	Cable, Battery - 16" (Negative)
5	850-2008	1	Washer, Lock - Spring (M8) B+ Terminal				

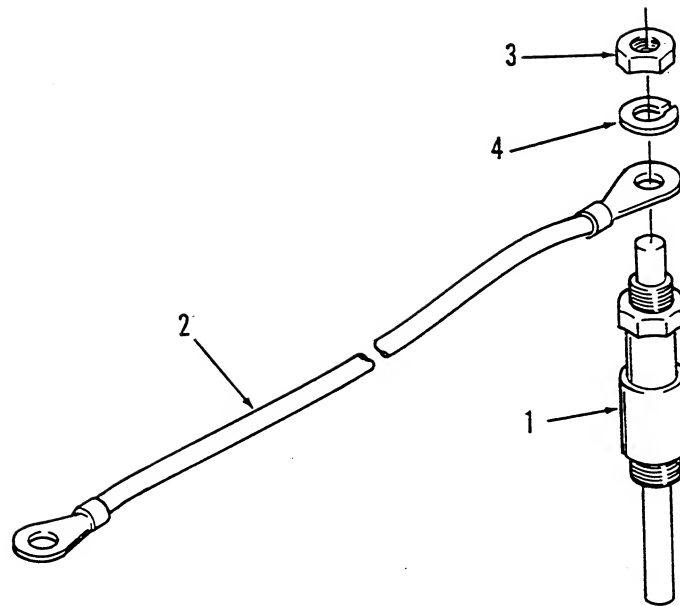
Starter Components



575A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	191-1394	1	Starter (Complete) Used Spec C Through Early Portion of Spec D	9	191-1442	1	Stopper Set (Includes Stopper and Ring)
	191-1888	1	Use Began During Later Portion of Spec D	10	191-1441	1	Lever Assembly
1	191-1450	1	Screw Set	11	191-1440	1	Spring Set
2	191-1449	1	Bracket Assembly, Front (Includes Bearing)	12	191-1439	1	Bracket Assembly, Center
3	191-1893	2	Ring, "O" - Sealing (Used on 191-1888 Starter)	13	191-1438	1	Armature Assembly (Includes Bearings)
4	191-1430	1	Switch Assembly	14	191-1437	1	Bearing, Center
5	191-1446	1	Gear	15	191-1436	1	Bearing, Rear
6	191-1445	1	Clutch	16	191-1435	1	Yoke Assembly (Includes Pole Shoes, Field Coil and Positive Brushes)
7	191-1444	1	Cover Set (Includes Cover, Plate, Washers, Snap Ring, and Screws)	17	191-1434	1	Holder, Brush (Includes Negative Brushes)
8	191-1443	1	Pinion Set (Includes Pinion, Spring, and Stopper Set)	18	191-1433	4	Spring, Brush
				19	191-1432	1	Bracket, Rear
				20	191-1431	1	Bolt Set

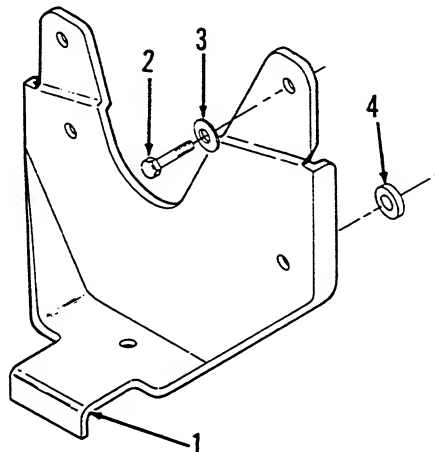
Glow Plug



212A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	333-0220	6	Plug, Glow	3	750-1002	6	Nut, Hex (M5)
2	336-4131	5	Lead, Glow Plug	4	850-2005	6	Washer, Lock - Spring (M5)

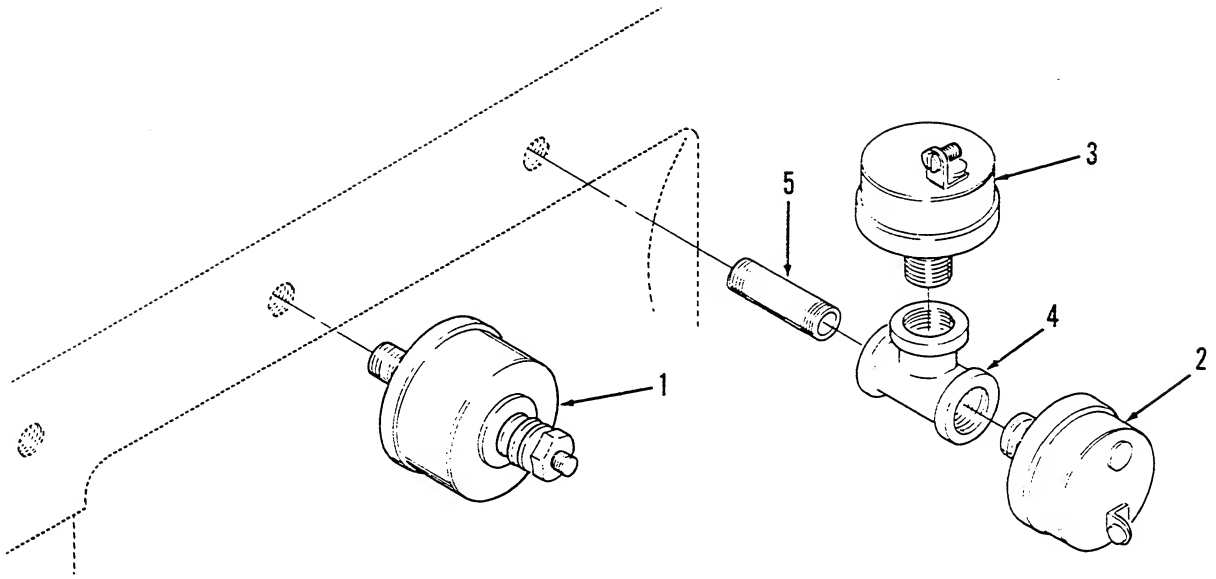
Front Engine Mount



M-1548

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	403-1925	1	Bracket, Mount	3	740-1010	4	Washer, Flat (M12)
2	718-1086	2	Screw, Cap - Hex Head	4	403-1932	2	Spacer, Bracket Mounting
	718-1802	2	M12 x 90 MM (Top)				
		2	M12 x 95 MM (Bottom)				

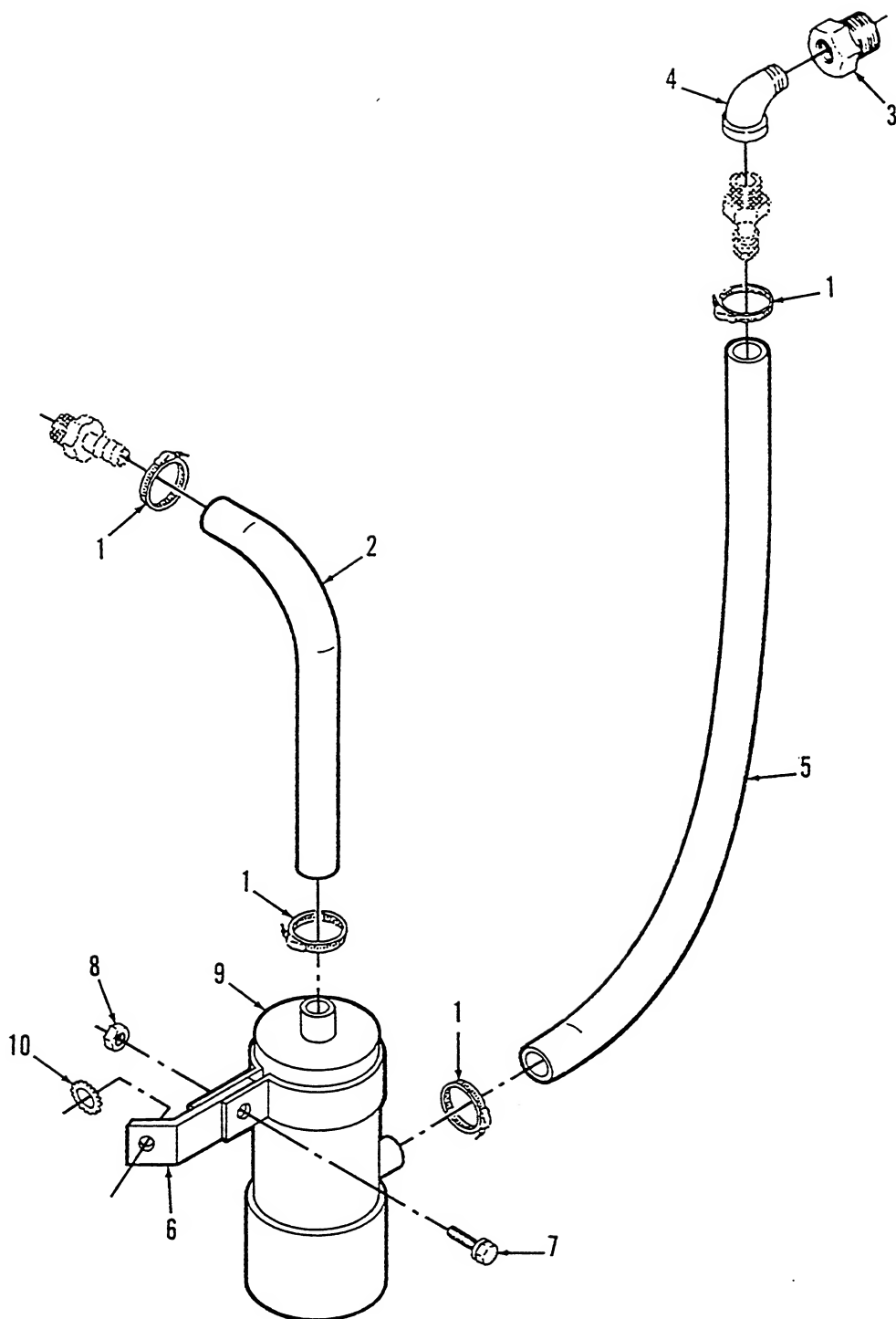
Oil Pressure Switch



201A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	193-0244	1	Sender, Oil Pressure (E1)	3	309-0272	1	Switch, Oil Pressure (S5 - Pre-Alarm) Closes at 20 lbs.
2			Switch, Oil Pressure -				Descending
	309-0169	1	Closes at 14 lbs. Descending	4	505-0059	1	Tee, Pipe (1/8")
	309-0561	1	Spec C and D (S3)	5	505-0098	1	Nipple, Pipe (1/8" x 3/4")
			Spec E (S1)				

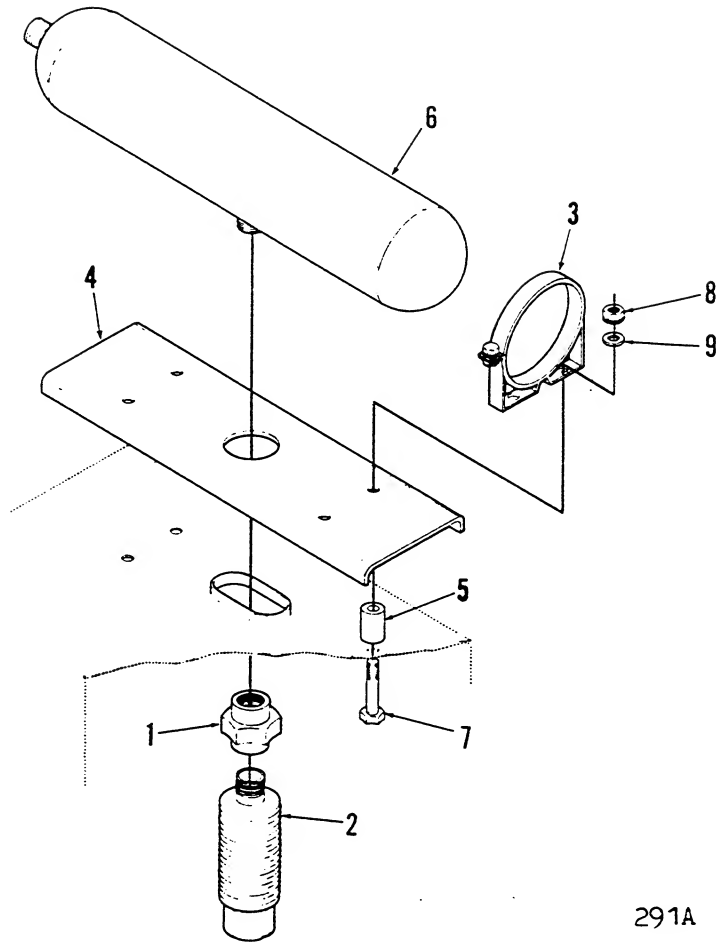
Engine Tank Heater



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0183	4	Clamp, Hose (5/8")
2	503-1429-01	1	Hose, Flex (5/8")
3	505-0020	1	Bushing, Reducer (3/4 x 1/4")
4	505-0011	1	Elbow, Street (1/4 NPT)
5	503-1429-05	1	Hose, Flex (5/8" x 36")
6	130-0755	1	Bracket, Mounting
7	821-0016	1	Screw, Self-Locking - Hex Washer Head (5/16-18 x 3/4")

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
8	870-0257	1	Nut, Self-Locking - Hex Washer Head (5/16-18)
9	333-0244-01		Heater, Engine
	333-0244-03		1500 Watt, 120 Volt
			1500 Watt, 230 Volt
10	856-0006	1	Washer, EIT (1/4")

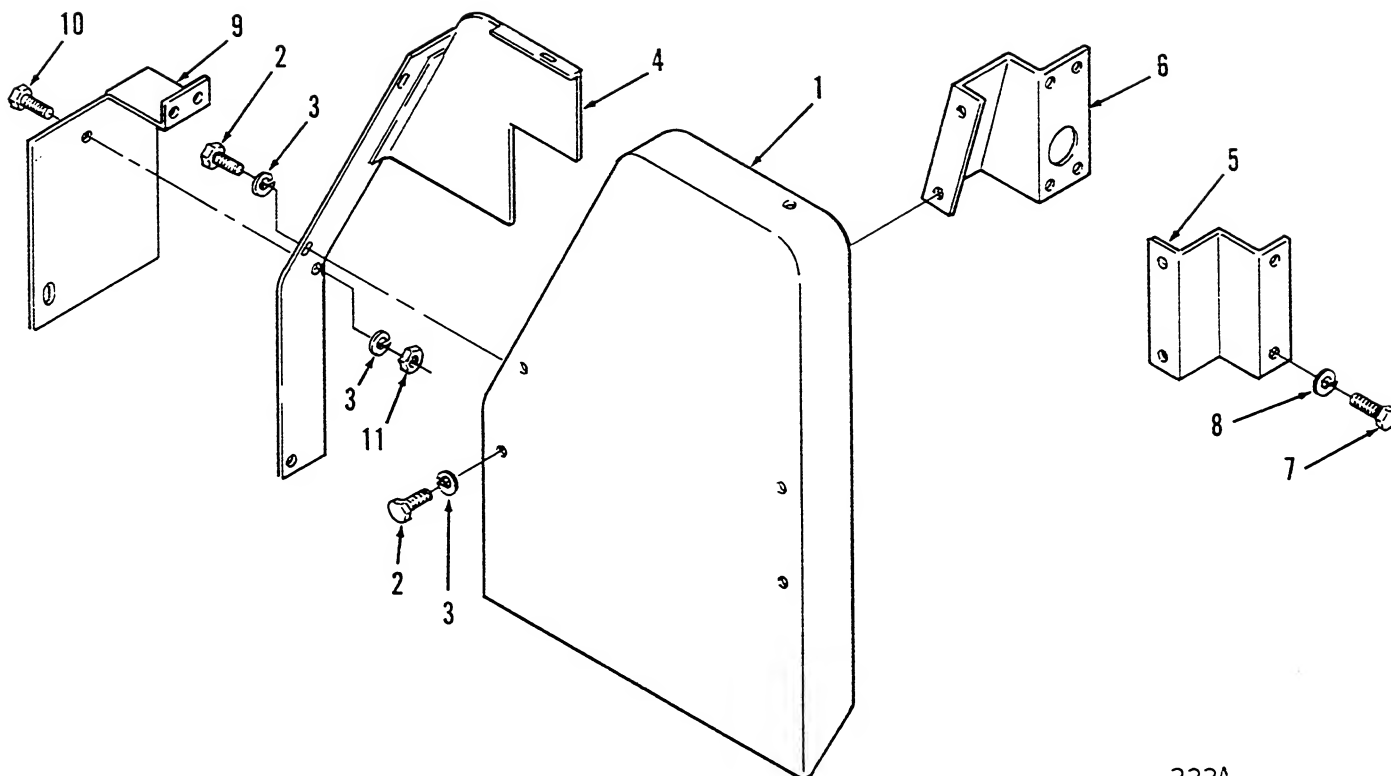
Muffler (Housed Set)



291A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	505-0454	1	Union, Pipe (2" NPT)	7	800-0036	4	Screw, Cap - Hex Head (5/16-18 x 3")
2	155-1936	1	Tube, Exhaust - Flexible	8	870-0257	4	Nut, Self-Locking - Hex Washer Head (5/16-18)
3	140-0752	2	Band, Mounting	9	526-2123	4	Washer, Flat (#10)
4	155-1931	1	Shield, Heat				
5	155-1430	4	Spacer				
6	155-1614	1	Muffler, Exhaust				

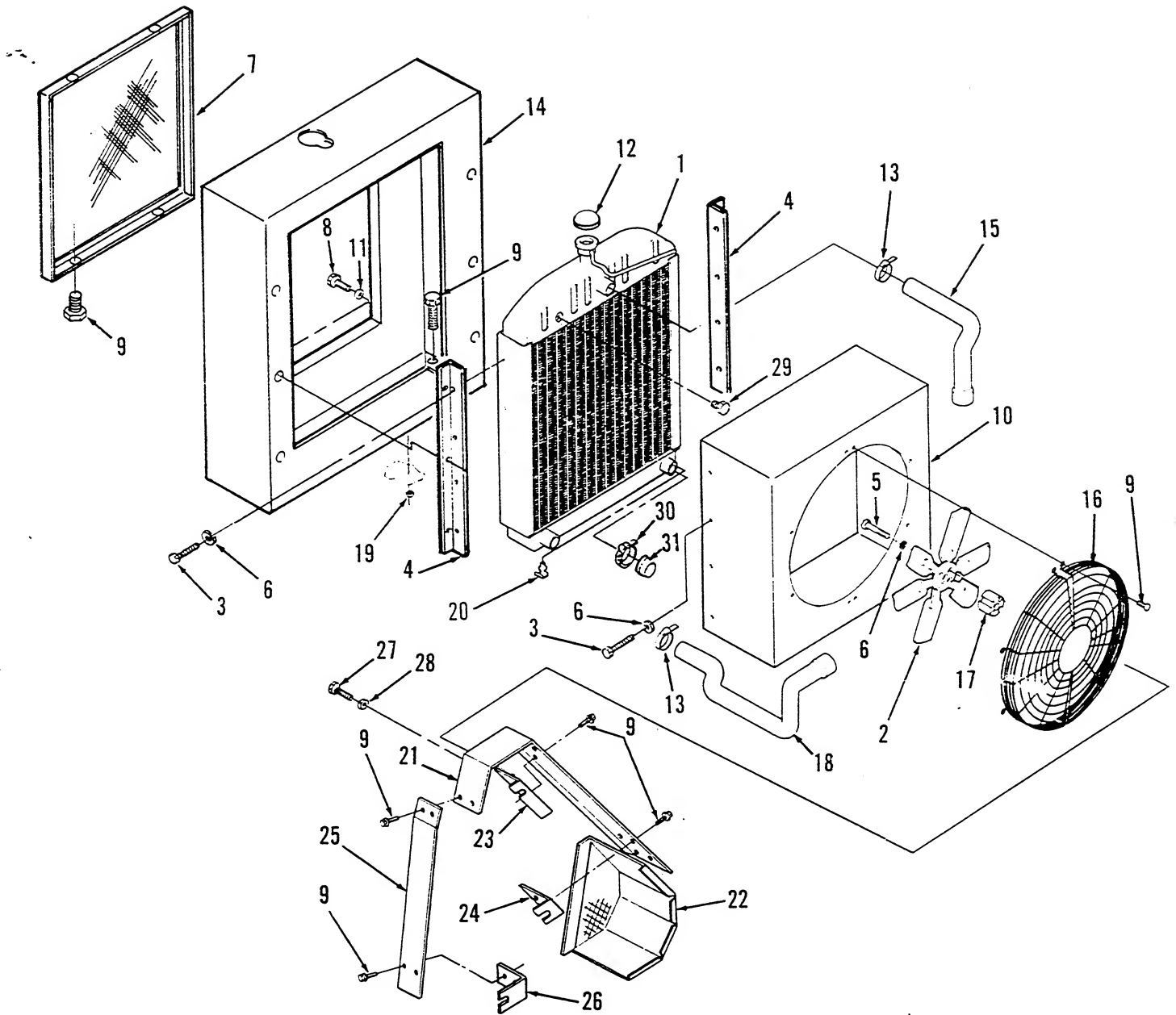
Belt Guard (With Remote Radiator)



222A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	130-3008	1	Panel, Front	7	800-2056	2	Screw, Cap - Hex Head (M8 x 16 MM)
2	800-2029	8	Screw, Cap - Hex Head (M6 x 12 MM)	8	850-2008	2	Washer, Lock - Spring (M8)
3	850-2006	9	Washer, Lock - Spring (M6)	9	191-1598	1	Guard, Alternator
4	130-3007	1	Panel, Side	10	718-1021	1	Screw, Cap - Hex Head (M6 x 20 MM)
5	130-2201	1	Bracket, Pulley Guard (Left Hand)	11	750-1004	1	Nut, Hex (M6)
6	130-2202	1	Bracket, Pulley Guard (Right Hand)				

Cooling System



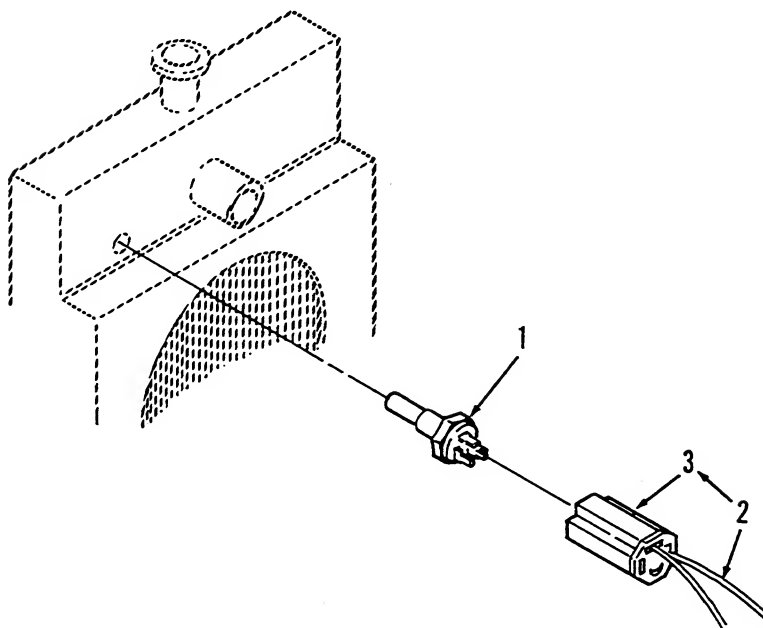
573A

Cooling System

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	130-1818	1	Radiator	16	130-2160	2	Guard, Fan
2	130-1922	1	Fan	17	130-1873	1	Spacer, Fan
3	718-1032	16	Screw, Cap - Hex Head (M8 x 10 MM)	18	503-1070	1	Hose, Radiator - Lower
4	130-2154	2	Bracket, Radiator Mounting	19	870-0212	5	Nut, Lock (1/4-20)
5	718-1047	4	Screw, Cap - Hex Head (M8 x 75 MM)	20	504-0003	1	Valve, Drain
6	850-2008	20	Washer, Lock (M8)	21	191-1540	1	Guard, Alternator Belt
7	130-2150	1	Guard, Radiator	22	191-1539	1	Guard, Alternator Belt
8	800-0003	6	Screw, Cap - Hex Head (1/4-20 x 1/2")	23	191-1542	1	Bracket, Belt Guard
9	821-0010	31	Screw, Cap - Hex Head (1/4-20 x 1/2")	24	191-1543	1	Bracket, Belt Guard
10	130-2158	1	Shroud, Fan	25	191-1546	1	Guard, Alternator Belt
11	526-0021	6	Washer, Flat (1/4")	26	191-1547	1	Bracket, Alternator Belt Guard
12	130-1928	1	Cap, Pressure	27	718-1035	1	Screw, Machine - Hex Head (M8 x 16 MM)
13	503-0365	4	Clamp, Hose	28	526-2100	1	Washer, Flat (M8)
14	405-3809	1	Housing, Front	29	502-0153	1	Plug, Hex Head (1/4")
15	503-1177	1	Hose, Radiator - Upper	30	503-0429	1	Clamp
				31	517-0263	1	Cap, Radiator (Lower Hose Fitting)

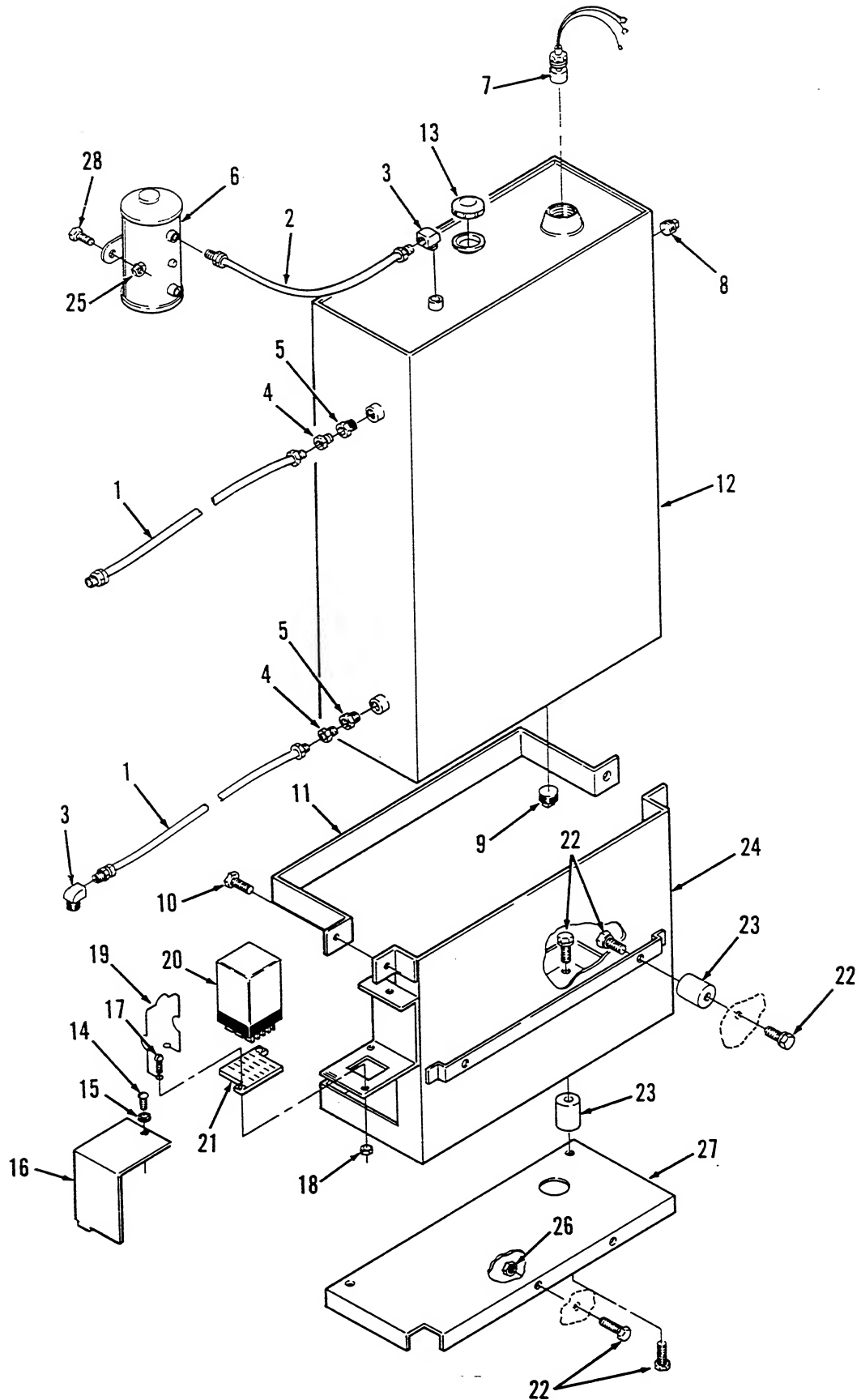
Low Coolant Level Switch

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	193-0322	1	Switch - Coolant Level (S4)
2	338-1691	1	Harness, Wiring (Includes Housing)
3	323-1236	1	Housing, Connector



198A

Day Tank (Underground Fuel Supply Application)

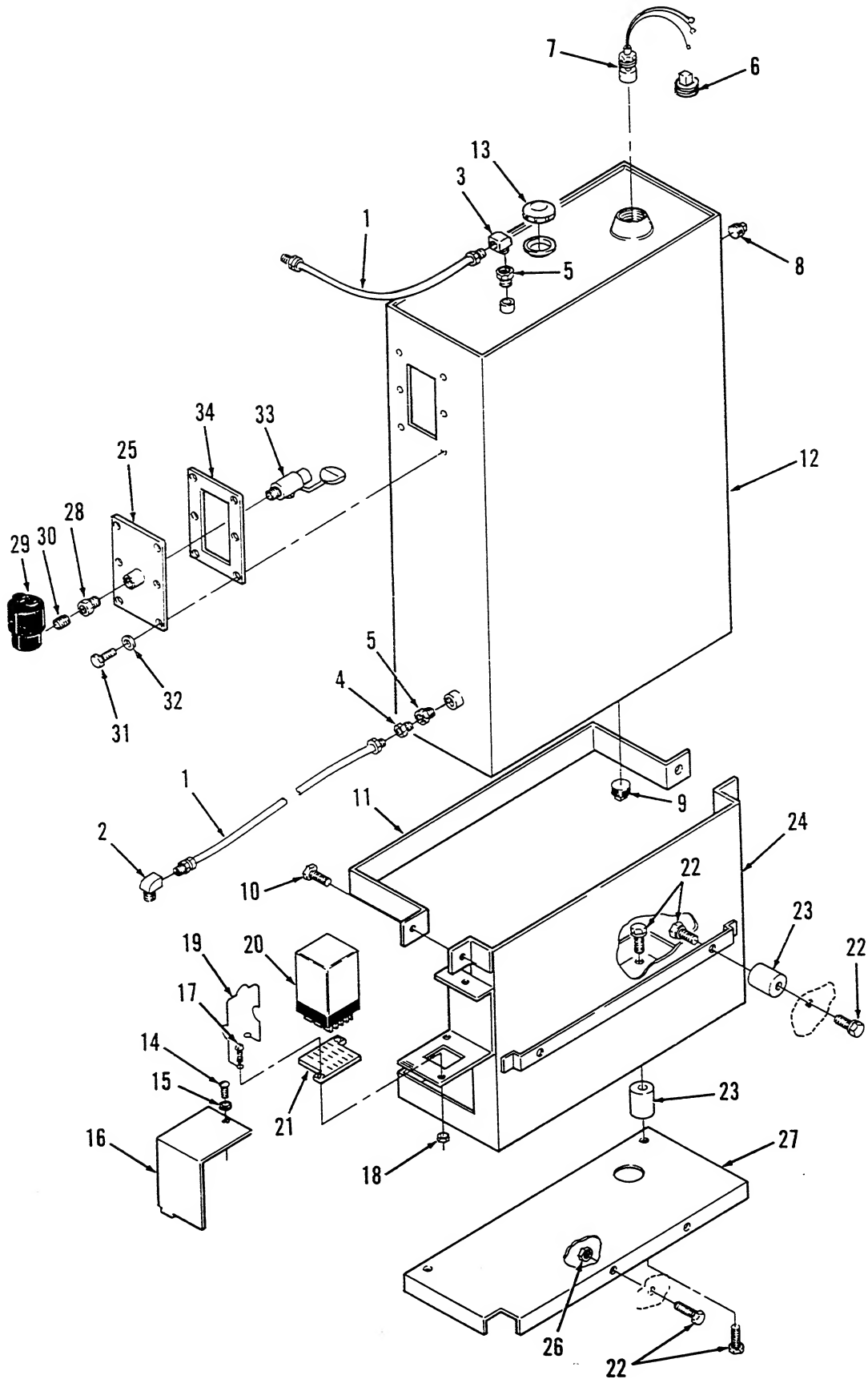


218B

Day Tank
(Underground Fuel Supply Application)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0027	2	Line, Fuel - Flexible (1/8 NPT Male x 1/4 SAE Male Swivel x 48" Lg)	12	415-0445	1	Tank, Fuel - Day (Includes Cap) (3-1/2 Gallons)
2	501-0007	1	Line, Fuel - Flexible (1/8 NPT Male x 1/4 SAE Male Swivel x 24" Lg)	13	159-0007	1	Cap - Fuel Tank
3	502-0041	2	Elbow, Pipe - Street, 90°, Brass-Inverted Male (1/4 NPT)	14	813-0098	1	Screw, Machine - Round Head (#10-32 x 3/8")
4	502-0003	2	Connector, Inverted Male (1/8")	15	850-0030	1	Washer, Lock - Spring (#10)
5	505-0007	2	Bushing, Reducer - Hex (1/4 NPT Male x 1/8 NPT Female)	16	415-0326	1	Cover, Access - Relay
6	149-1828	1	Pump, Fuel (12 VDC)	17	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")
7	415-0321	1	Switch, Float - Liquid Level (Includes Mounting Plug)	18	870-1183	2	Nut, Self-locking, Hex - with ET (#6-32)
8	505-0054	1	Plug, Pipe - Square Head (1/4 NPT)	19	307-1157	1	Spring, Holddown - Relay
9	505-0110	1	Plug, Pipe - Square Head (3/8 NPT)	20	307-1058	1	Relay (12 VDC)
10	821-0013	2	Screw, Self-locking - Hex Washer Head (1/4-20 x 1")	21	323-0765	1	Socket, Relay
11	415-0451	1	Strap, Retaining - Tank	22	821-0014	10	Screw, Self-locking - Hex Washer Head (5/16-18 x 1/2")
				23	402-0078	4	Mount, Vibration
				24	159-1120	1	Bracket, Mounting - Fuel Tank
				25	870-0212	2	Nut, Self-locking - Hex Washer Head (1/4-20)
				26	870-0048	2	Nut, Self-locking - Hex Washer Head (5/16-18)
				27	159-1122	1	Plate, Support - Fuel Tank
				28	821-0018	2	Screw, Self-locking - Hex Washer Head (1/4-20 x 5/8")

Day Tank (Overhead Fuel Supply Application)

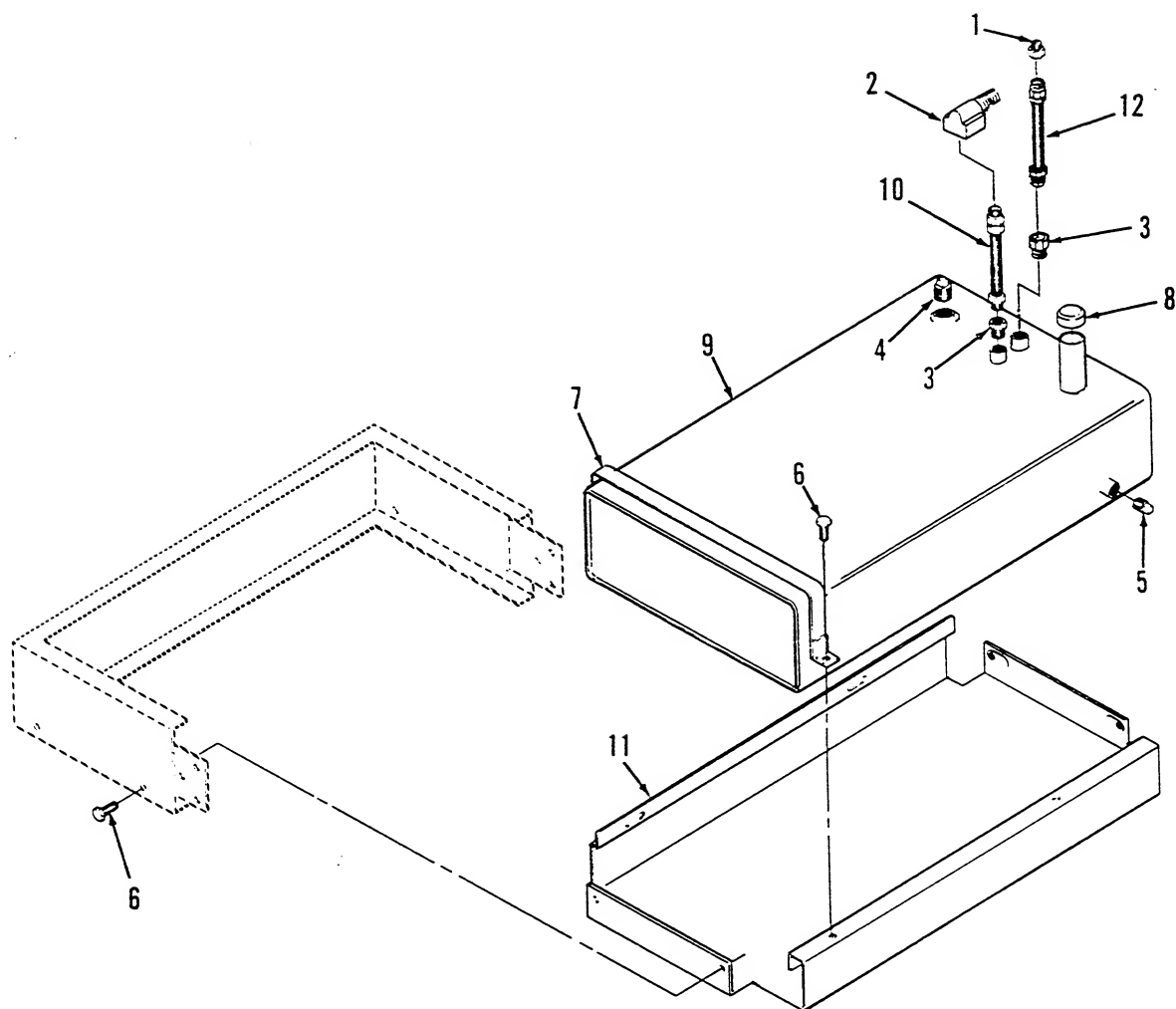


219B

**Day Tank
(Overhead Fuel Supply Application)**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0027	2	Line, Fuel - Flexible (1/8 NPT Male x 1/4 SAE Male Swivel x 48" Lg)	16	415-0326	1	Cover, Access - Relay
2	502-0041	1	Elbow, Inverted Male - 90° (1/4")	17	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")
3	502-0020	1	Elbow, Pipe - Street, 90°, Brass (1/8")	18	870-1183	2	Nut, Self-locking, Hex - with ET (#8-32)
4	502-0003	1	Connector, Inverted Male (1/8")	19	307-1157	1	Spring, Holddown - Relay
5	505-0007	2	Bushing, Reducer - Hex (1/4 NPT Male x 1/8 NPT Female)	20	307-1058	1	Relay (12 VDC)
6	505-1050	1	Plug, Switch Mounting	21	323-0765	1	Socket, Relay
7	415-0466	1	Switch, Float - Liquid Level	22	821-0014	10	Screw, Self-locking - Hex Washer Head (5/16-18 x 1/2")
8	505-0054	1	Plug, Pipe - Square Head (1/4 NPT)	23	402-0078	4	Mount, Vibration
9	505-0110	1	Plug, Pipe - Square Head (3/8 NPT)	24	159-1120	1	Bracket, Mounting - Fuel Tank
10	821-0013	2	Screw, Self-locking - Hex Washer Head (1/4-20 x 1")	25	415-0516	1	Plate, Cover - Access
11	415-0451	1	Strap, Retaining - Tank	26	870-0048	2	Nut, Self-locking - Hex Washer Head (5/16-18)
12	415-0543	1	Tank, Fuel - Day (Includes Cap) (3-1/2 Gallons)	27	159-1122	1	Plate, Support - Fuel Tank
13	159-0007	1	Cap - Fuel Tank	28	505-0016	1	Bushing, Reducer (3/8" to 1/8")
14	813-0098	1	Screw, Machine - Round Head (#10-32 x 3/8")	29	307-0565	1	Solenoid - 12 VDC
15	850-0030	1	Washer, Lock - Spring (#10)	30	505-0098	1	Nipple, Pipe - Close (1/8" NPT x 3/4")
				31	800-0002	6	Screw, Cap - Hex Head (1/4-20 x 3/8")
				32	526-0063	6	Washer, Flat - Copper (17/64" ID x 7/16 OD x 1/32" Thk)
				33	309-0410	1	Valve, Float
				34	415-0467	1	Gasket - Access Plate

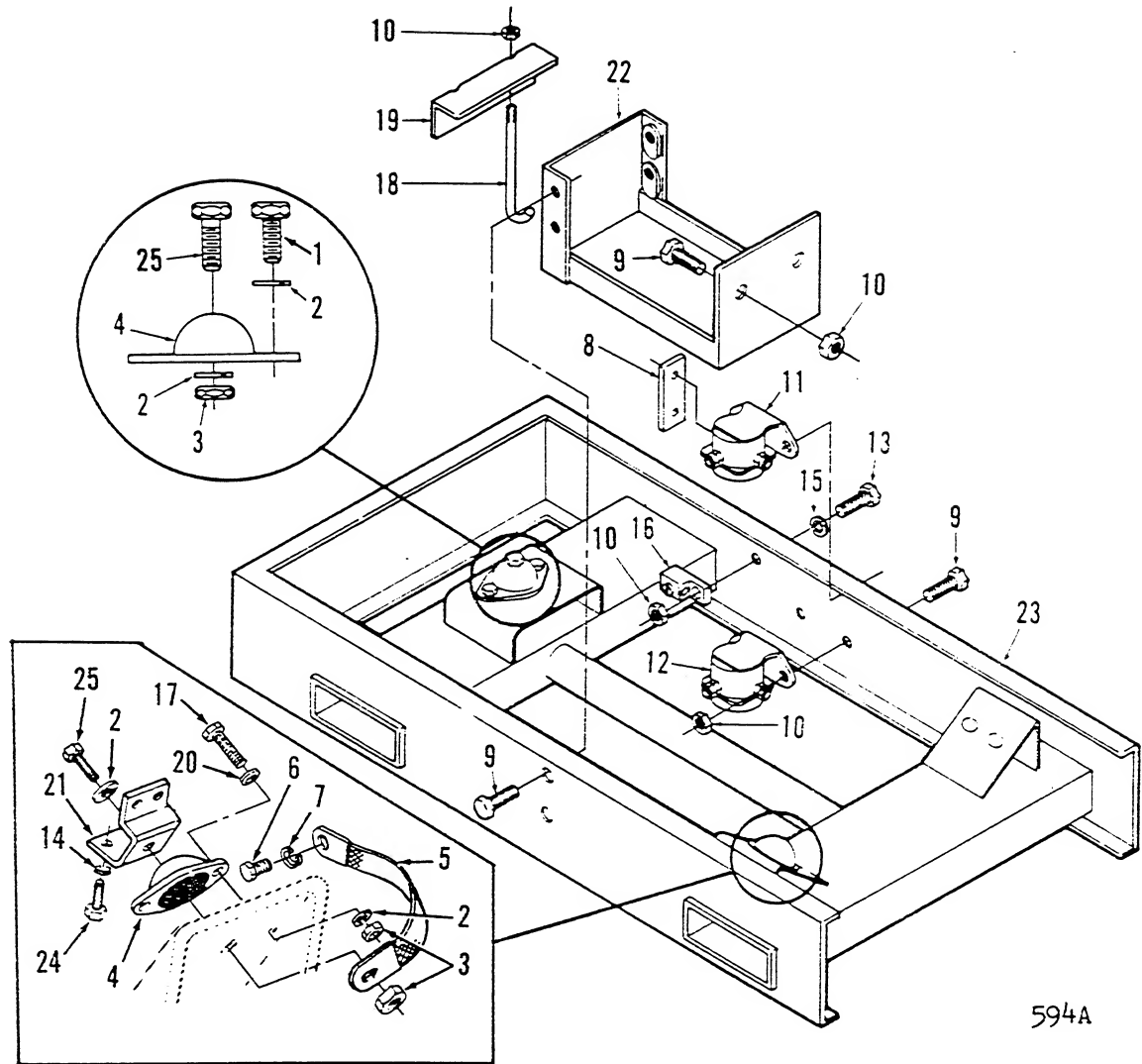
Fuel Tank (Skid Mounted)



215A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	502-0003	1	Adapter, Pipe - Hex (5/16-24 Female x 1/8 NPT Male)	6	821-0010	6	Screw, Self-locking - Hex Washer Head (1/4-20 x 1/2")
2	502-0041	1	Elbow, Pipe - Street, 90° (5/16-24 Female x 1/4 NPT Male)	7	159-1126	2	Strap, Retaining - Fuel Tank
3	505-0007	2	Bushing, Reducer - Hex (1/4 NPT Male x 1/8 NPT Female)	8	159-0007	1	Cap - Fuel Tank
4	505-0949	1	Plug, Pipe - Square Head (1-1/4 NPT)	9	159-1123	1	Tank, Fuel (8-1/2 Gallon)
5	505-0054	1	Plug, Pipe - Square Head (1/4 NPT)	10	501-0027	1	Line, Fuel - Flexible (1/8 NPT Male x 1/4 SAE Male Swivel x 48" Lg)
				11	159-1124	1	Tray, Mounting - Fuel Tank
				12	501-0094	1	Line, Fuel - Flexible (1/8 NPT Male x 1/4 SAE Male Swivel x 60" Lg)

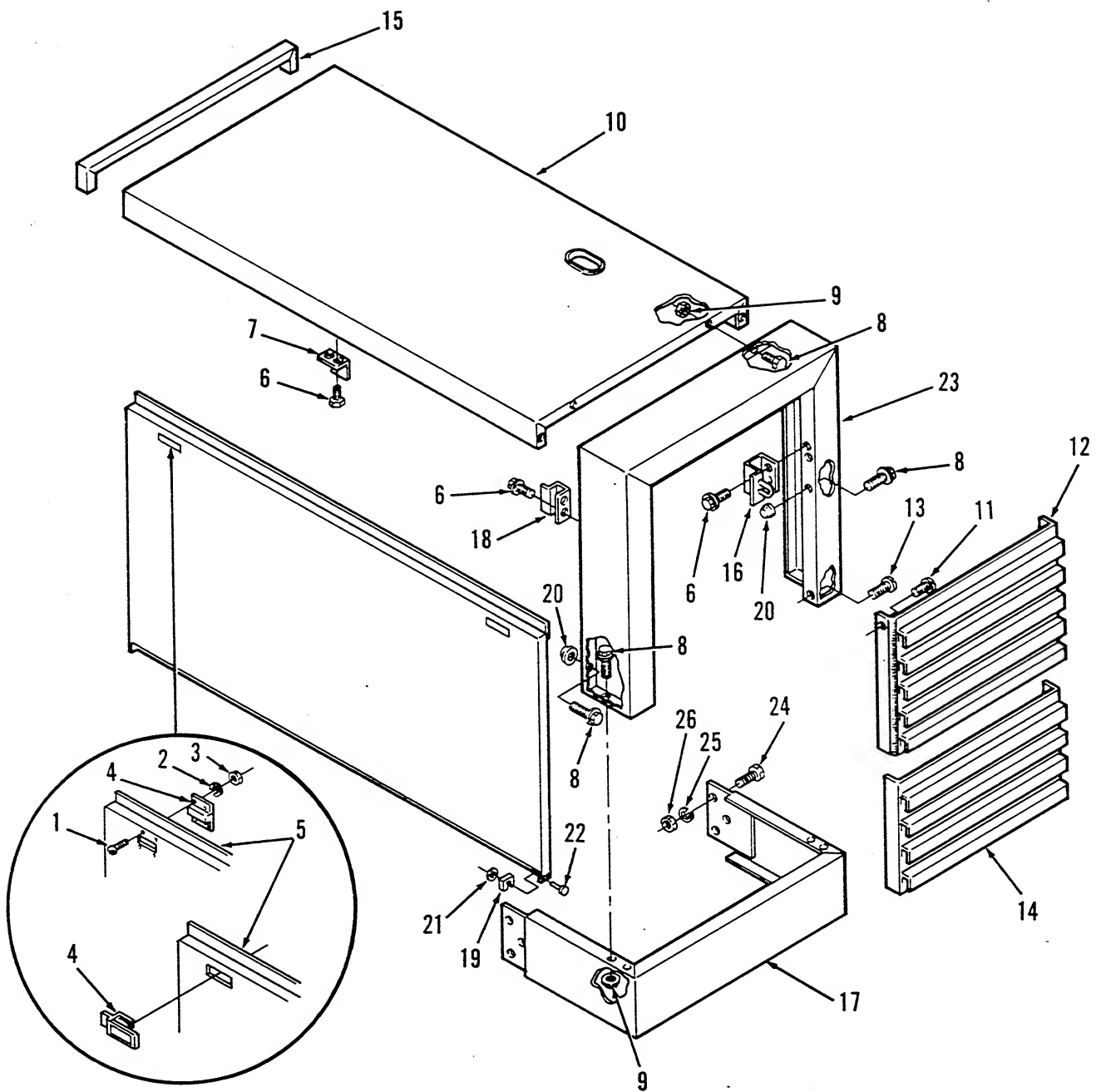
Chassis



594A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0091	2	Screw, Cap - Hex Head 1/2-13 x 1-1/4" (Spec C and D)	12	307-1166	1	Relay, Solenoid - Start (Lower) (K1) (Spec C and D)
	800-0090	2	1/2-13 x 1" (Spec E)	13	821-0013	1	Screw, Self-Locking - Hex Washer Head (1/4-20 x 1")
2	850-0060	9	Washer, Lock - Spring (1/2")	14	850-2012	8	Washer, Lock - Spring (M12)
3	862-0016	7	Nut, Hex (1/2-13)	15	856-0006	1	Washer, Lock - EIT (1/4")
4	402-0466	3	Mount, Vibration	16	332-1473	1	Lug, Solderless
5	337-0090	1	Strap, Ground - Engine	17	800-0091	4	Screw, Cap - Hex Head (1/2-13 x 1-1/4")
6	800-2110	1	Screw, Cap - Hex Head (M12 x 20 MM)	18	416-0813	2	Rod, J Hook (1/4-20)
7	853-2012	1	Washer, Lock - ET (M12)	19	416-0812	1	Bracket, Holddown - Battery
8	332-0602	1	Jumper, Solenoid (Spec C and D)	20	526-0219	4	Washer, Flat (1/2")
9			Screw, Self-Locking - Hex Washer Head (1/4-20 x 1/2")	21	403-1929	2	Bracket, Engine Mounting
	821-0010	8	Spec C and D	22	416-0821	1	Tray, Battery
	821-0010	6	Spec E	23	403-2053	1	Skid
10			Nut, Self-Locking - Hex Washer Head (1/4-20)	24	720-1072	8	Screw, Cap - Hex Head (M12 x 20 MM)
	870-0212	9	Spec C and D	25			Screw, Cap - Hex Head
	870-0212	7	Spec E		800-0091	3	1/2-13 x 1-1/4" (Spec C and D)
11	307-1031	1	Relay, Solenoid - Heater (Upper) (K2)		800-0090	3	1/2-13 x 1" (Spec E)

Housing



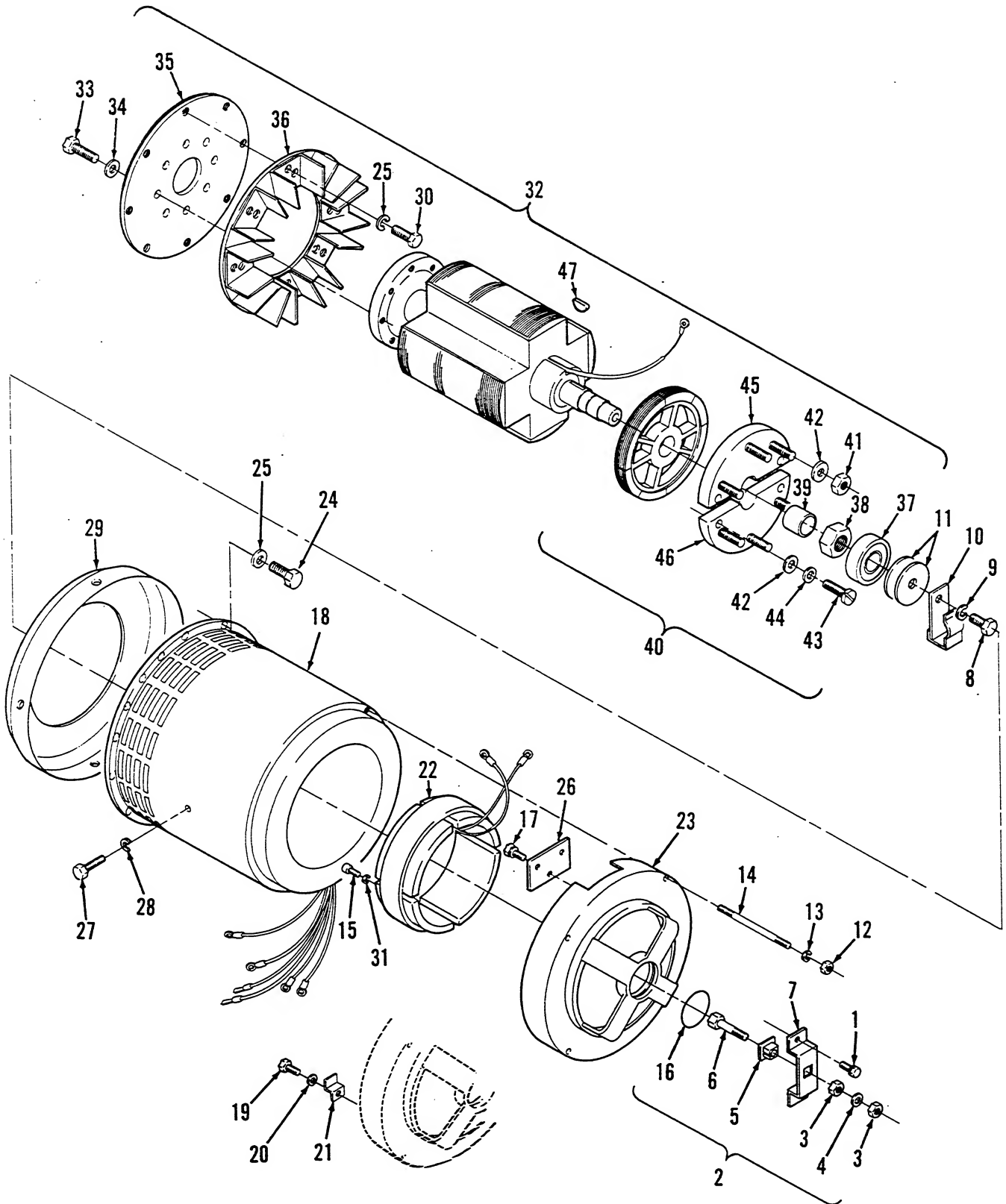
275A

Housing

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	812-0148	16	Screw, Machine - Round Head (1/4-20 x 1/2")	12	405-2677	1	Cover, Control
2	850-0040	16	Washer, Lock - Spring (1/4")	13	812-0148	4	Screw, Machine - Round Head (1/4-20 x 1/2")
3	862-0001	16	Nut, Hex (1/4-20)	14	405-3082	1	Grillie
4	406-0369	4	Latch, Door	15	895-0195	-	Stripping, Weather - Bulk (Ordered by the foot - 5 foot required)
			* Begin Spec C Through a Portion of Spec D (With Mounting Holes)	16	406-0491	1	Latch, Cover
	406-0561	4	* Use Began During Spec D (Without Mounting Holes)	17	403-2064	1	Skid, Rear
5			Door, Engine	18	406-0493	4	Catch, Door
	405-2823	2	* Begin Spec C Through a Portion of Spec D (With Latch Mounting Holes)	19	405-1872	6	Clip, Door
			* Use Began During Spec D (Without Latch Mounting Holes)	20	870-0258	6	Nut, Weld (1/4-20)
	405-3306	2		21	526-0003	12	Washer, Flat (#8)
				22	818-0150	12	Rivet
6	821-0004	14	Screw, Self-locking - Hex Washer Head (10-32 x 5/16")	23	405-3070	1	Panel, Rear
7	406-0490	2	Latch, Door	24	800-0090	6	Screw, Cap - Hex Head (1/2-13 x 1")
8	821-0010	18	Screw, Self-locking - Hex Washer Head (1/4-20 x 1/2")	25	850-0060	6	Washer, Lock - Spring (1/2")
9	870-0212	12	Nut, Self-locking - Hex (1/4-20)	26	862-0016	6	Nut, Hex (1/2-13)
10	405-3060	1	Panel, Top	* - Latches and doors with mounting holes are not interchangeable with latches and doors without mounting holes.			
11	813-0098	3	Screw, Machine - Round Head (#10-32 x 3/8")				

w/mtl muffler 405-4006

Generator



Generator

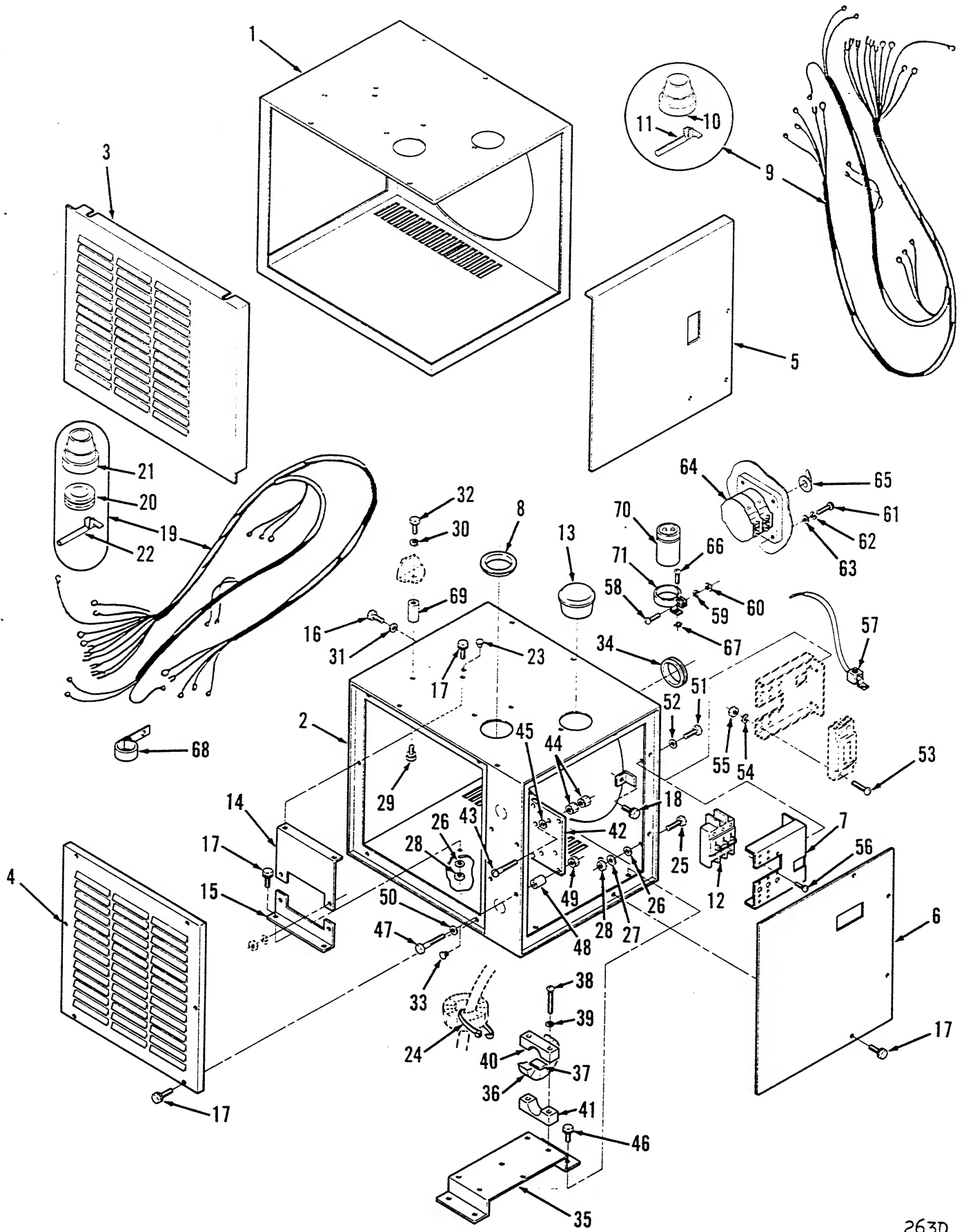
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0010	2	Screw, Self-Locking - Hex Washer Head (1/4-20 x 1/2")	25	850-2010	20	Washer, Lock - Spring (M10)
2	150-1446	1	Bracket and Point Assembly (Includes Parts Marked #)	26	232-2418	1	Board, Terminal
3	862-0001	2	#Nut, Hex (1/4-20)	27	718-1019	4	Screw, Cap - Hex Head (M6 x 14MM)
4	853-0013	1	#Washer, Lock - ET (1/4")	28	850-2006	4	Washer, Lock - Spring (M6)
5	870-0250	1	#Nut, Insulating	29	232-2845	1	Baffle, Air
6	150-0723	1	#Point, Contact	30	800-2085	8	Screw, Cap - Hex Head (M10 x 20MM)
7	150-1445	1	#Bracket, Mounting	31	850-0040	4	Washer, Lock - Spring (1/4)
8	800-0051	1	Screw, Cap - Hex Head (3/8-16 x 1-1/4")	32			Rotor Assembly, Generator (Includes Parts Marked *)
9	856-0010	1	Washer, Lock - EIT (3/8")				20.0 DL6
10	150-0717	1	Switch, Overspeed (S3)		201-2955	1	Code 53R
11	526-0077	2	Washer, Flat (3/8")		201-2947	1	Code 515R
12	862-0003	4	Nut, Hex (3/8-16)				25.0 DL6
13	850-0050	4	Washer, Lock - Spring (3/8")		201-2955	1	Code B,3R
14			Stud		201-2947	1	Code 9XR
	520-0055	4	3/8-16 x 4"				Code L,15R
	520-0966	4	3/8-16 x 5.2"		201-2947	1	Standard
15	802-0040	4	Screw, Cap - Socket Head (1/4-20 x 2")		201-2955	1	Extended Stack
16	509-0094	1	Seal, "O" Ring		201-3048	1	Environmentally Protected
17	815-0194	2	Screw, Tapping - Hex Head With ET Lockwasher (#10-32 x 3/8")		201-2956	1	Code 53R
18			Stator Assembly, Generator (Includes Air Baffle)		201-2955	1	Code 515R
			20.0 DL6		201-2956	1	Standard
	220-3591	1	Code 53R		201-2956	1	Extended Stack
	220-3607	1	Code 515R				30.0 DL6
			25.0 DL6		201-2956	1	Code 3AR
	220-3533	1	Code B,3R		201-3050	1	Code B,3R
	220-3768	1	Code 9XR				Standard
			Code L,15R		201-2955	1	Environmentally Protected
	220-3559	1	Standard		201-2955	1	Code 7R
	220-3560	1	Extended Stack		201-2955	1	Code 9XR
	220-3587	1	Environmentally Protected		201-2956	1	Code L,15R
	220-3590	1	Code 53R		201-3049	1	Standard
			Code 515R		201-3050	1	Extended Stack
	220-3608	1	Standard				Extended Stack and Environmentally Protected
	220-3609	1	Extended Stack				
			30.0 DL6	33	805-0025	8	*Bolt, Hex Head - Slotted, Grade 8 (7/16-14 x 3/4")
	220-4086	1	Code 3AR	34	526-0249	8	*Washer, Flat - Hardened (15/32" ID x 1" OD x 1/8" Thk)
			Code B,3R				
	220-3532	1	Standard	35	232-2843	1	*Disk, Drive
	220-3998	1	Environmentally Protected	36	205-0132	1	*Fan, Generator
	220-4102	1	Code 7R	37	510-0112	1	*Bearing, Ball
	220-3769	1	Code 9XR	38	870-0284	1	*Nut, Self-Locking Hex (1-1/8-12)
			Code L,15R	39	232-2398	1	*Spacer, Bearing
	220-3560	1	Standard	40			*Rotor Assembly, Exciter (Includes Parts Marked +)
	220-3561	1	Extended Stack		201-2152	1	Standard
	220-3588	1	Environmentally Protected		201-2298	1	Environmentally Protected
	220-3589	1	Extended Stack and Environmentally Protected	41	870-0131	8	+Nut, Self-Locking - Hex With ET Lockwasher (#10-32)
19	800-0004	4	Screw, Cap - Hex Head (1/4-20 x 5/8") Exciter Stator Mounting (Early Models)	42	526-0008	12	+Washer, Flat (#10)
20	853-0013	4	Washer, Lock - ET (1/4) Exciter Stator Mounting (Early Models)	43	813-0100	4	+Screw, Machine - Round Head (#10-32 x 1/2")
21	232-2584	4	Clip, Retaining - Exciter Stator Mounting (Early Models)	44	853-0008	4	+Washer, Lock - ET (#10)
22			Stator, Exciter	45	358-0069	1	+Rectifier Assembly - Positive
	220-2010	1	Standard	46	358-0070	1	+Rectifier Assembly - Negative
	220-2309	1	Environmentally Protected	47	515-0094	1	+Key - Exciter Stator
23	211-0349	1	Bell, End				
24	800-2087	12	Screw, Cap - Hex Head (M10 x 30 MM)				

- Parts Included in 150-1446 Bracket and Point Assembly

* - Parts Included in Generator Rotor Assemblies

+ - Parts Included in Exciter Rotor Assemblies

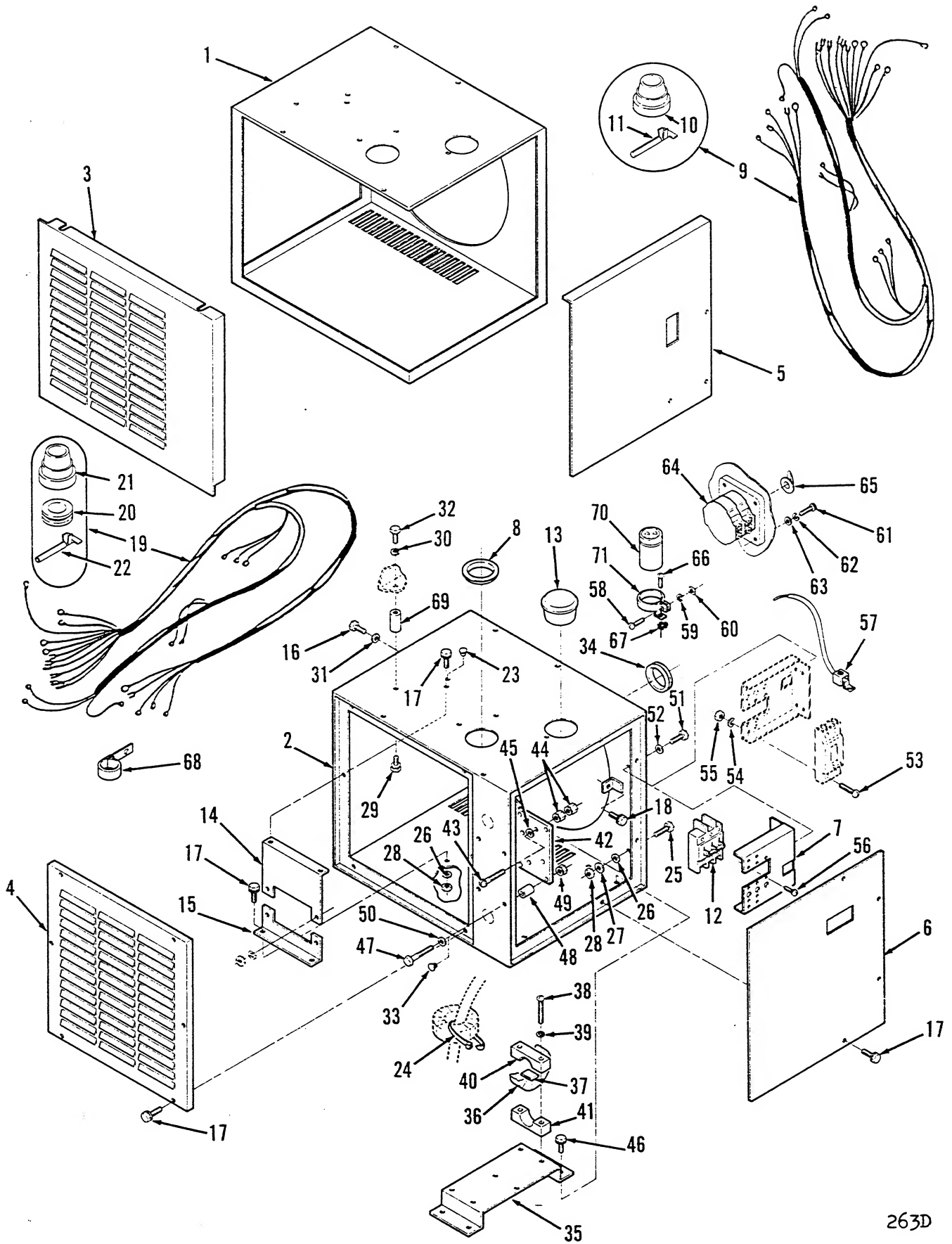
Output Box (Spec C and D)



Output Box (Spec C and D)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	301-7381	1	Box, Output - Early Portion of Spec C (Corner brace is part of the grille)	10	323-1136	1	Plug, Circular (14 Pin) (P2)
2			Box, Output	11	323-1228	11	Pin, Male
	301-7903	1	Late Portion of Spec C (Corner brace is part of output box)	12			Breaker, Circuit (CB4 or CB5) 50 Hertz
	301-7903	1	Spec D		320-1061	1	Voltage Code 53R - 125 Amp, 240 Volt
3	301-7336	1	Grille - Early Portion of Spec C (Corner brace is part of grille)		320-0638	1	Voltage Code 515R 40 Amp, 480 Volt
4			Grille		320-0645	1	50 Amp, 480 Volt
	301-7899	1	Late Portion of Spec C (Corner brace is part of output box)		320-0642	1	90 Amp, 240 Volt
	301-7899	1	Spec D				60 Hertz
5			Cover - Early Portion of Spec C (With 90° bend)		320-1061	1	Voltage Code 3R 125 Amp, 240 Volt
	301-7335	1	Without Circuit Breaker		320-1435	1	125 Amp, 240 Volt (With Shunt Trip)
			Opening		320-1440	1	Voltage Code 7R - 60 Amp, 480 Volt (With Shunt Trip)
			With Circuit Breaker				Voltage Code 15R
			Opening		320-0638	1	40 Amp, 480 Volt
	301-7516	1	Use with Westinghouse and General Electric Circuit Breakers		320-0645	1	50 Amp, 480 Volt
	301-7515	1	Use with Heineman Circuit Breakers		320-0384	1	60 Amp, 480 Volt
6			Cover		320-0647	1	70 Amp, 240 Volt
			Late Portion of Spec C (Without 90° Bend)		320-0700	1	80 Amp, 240 Volt
	301-7901	1	Without Circuit Breaker		320-0701	1	100 Amp, 240 Volt
			Opening		320-0457	1	100 Amp, 240 Volt (With Shunt Trip)
			With Circuit Breaker				125 Amp, 240 Volt
	301-7941	1	Use with Westinghouse and General Electric Circuit Breakers		320-1049	1	125 Amp, 240 Volt (With Shunt Trip)
	301-7942	1	Use with Heineman Circuit Breakers		320-1283	1	125 Amp, 240 Volt (With Shunt Trip)
			Spec D		320-1062	1	150 Amp, 240 Volt
	301-7901	1	Without Circuit Breaker		320-0344	1	175 Amp, 240 Volt
			Opening	13	517-0190	1	Plug, Plastic - 3-1/2" Hole
			With Circuit Breaker	14	301-7360	1	Bracket - Upper
	301-7941	1	Use with Westinghouse and General Electric Circuit Breakers	15	301-7361	1	Bracket - Lower
	301-7942	1	Use with Heineman Circuit Breakers	16	815-0567	2	Screw, Self-Tapping - Hex Head (5/16-18 x 1-1/4")
			Spec D	17	821-0010	14	Screw, Self-Locking - Hex Washer Head (1/4-20 x 1/2")
	301-7901	1	Without Circuit Breaker	18	815-0236	1	Screw, Self-Tapping - Hex Head (5/16-18 x 5/8")
			Opening	19	338-1649	1	Harness, Wiring - Engine to Control (Includes Grommet, Plug and Sockets)
			With Circuit Breaker				Grommet, Rubber - 1-1/2" Hole
	301-7941	1	Use with Westinghouse and General Electric Circuit Breakers	20	508-0258	1	Plug, Circular (16 Pin) (P1)
	301-7942	1	Use with Heineman Circuit Breakers	21	323-1134	1	Socket, Female
7	301-7572	1	Bracket, Mounting - Circuit Breaker	22	323-1192	4	14-12 Gauge Wire
8	508-0257	1	Grommet, Plastic - 3-1/2" Hole		323-1195	10	18-14 Gauge Wire
9	338-1647	1	Harness, Wiring - Generator to Control (Includes Plug and Pins)	23	517-0169	4	Plug, Plastic - 3/8" Hole
				24	332-0941	3	Tie, Cable

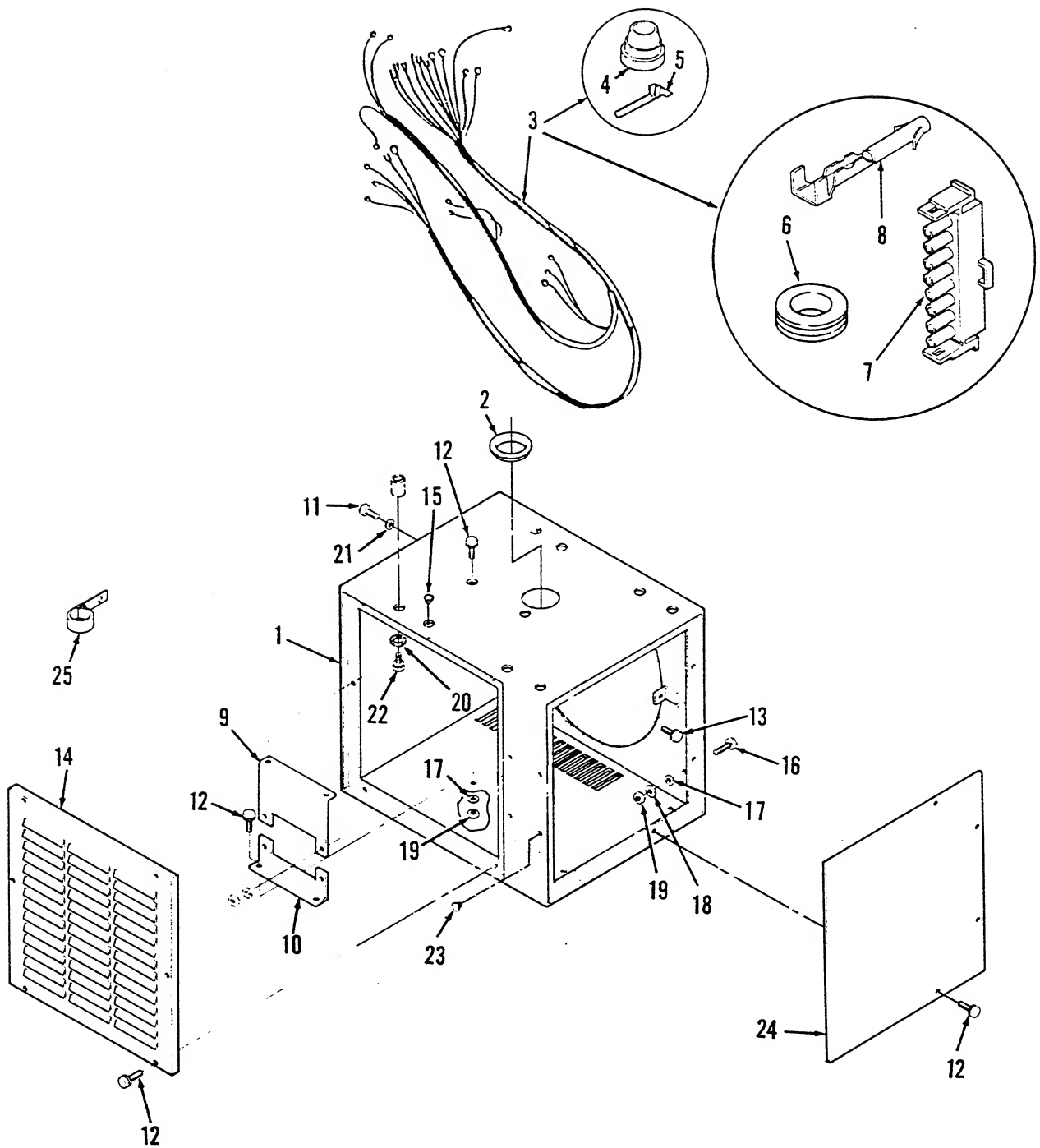
Output Box
(Spec C and D)



**Output Box
(Spec C and D)**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
25	800-0007	1	Screw, Cap - Hex Head (1/4-20 x 1") Grounding Stud	45			Washer, Lock - IT (1/4")
26	856-0006	4	Washer, Lock - EIT (1/4")	854-0014	3		Single Phase Sets
27	526-0018	3	Washer, Flat (1/4")	854-0014	4		Three Phase Sets
28	862-0001	3	Nut, Hex (1/4-20)	46	821-0009	4	Screw, Self-Locking - Hex Washer Head (1/4-20 x 3/8")
29	821-0014	4	Screw, Self-Locking - Hex Washer Head (5/16-18 x 1/2")	47	800-0010	4	Screw, Cap - Hex Head (1/4-20 x 3/4")
30	850-0045	4	Washer, Lock - Spring (5/16")	48	332-1348	4	Spacer
31	526-0115	2	Washer, Flat (5/16")	49	870-0212	4	Nut, Self-Locking (1/4-20)
32	800-0024	4	Screw, Cap - Hex Head (5/16-18 x 1/2")	50	854-0014	4	Washer, Lock - IT (1/4")
33	517-0045	4	Plug, Dot Button - 9/32" Hole (Output boxes without terminal blocks)	51	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")
34	508-0055	1	Grommet, Rubber - 1-3/4" Hole	52	850-0040	2	Washer, Lock - Spring (1/4")
35	301-8157	1	Bracket, Mounting	53	812-0094	4	Screw, Machine - Round Head (#8-32 x 3-5/8")
36			Transformer, Current (Ratio 75/5, 1VA) (CT21,22,23)	54	850-0025	4	Washer, Lock - Spring (#8)
	302-0076	2	Single Phase Sets	55	860-0008	4	Nut, Hex (#8-32)
	302-0076	3	Three Phase Sets	56	812-0063	6	Screw, Machine - Round Head (#6-32 x 1/2")
37			Shim	57	226-3423	6	Lead, Generator Output Extension
	302-0253	4	Single Phase Sets	58	812-0078	2	Screw, Machine - Round Head (#8-32 x 7/16")
	302-0253	6	Three Phase Sets	59	850-0025	2	Washer, Lock - Spring (#8)
38			Screw, Machine - Round Head (#10-32 x 2")	60	861-0007	2	Nut, Square (#8-32)
	813-0110	4	Single Phase Sets	61	812-0153	4	Screw, Machine - Round Head (1/4-20 x 1")
	813-0110	6	Three Phase Sets	62	850-0040	4	Washer, Lock - Spring (1/4")
39			Washer, Lock -IT (#10)	63	526-0052	4	Washer, Flat (1/4")
	854-0010	4	Single Phase Sets	64	308-0770	1	Switch, Tap - Dual Phase Selector (Includes Knob and Mounting Hardware)
	854-0010	6	Three Phase Sets	65	303-0218	1	Knob
40			Clamp - Upper	66	815-0166	4	Screw, Machine - Fillister Head (#10-32 x 1")
	302-0235	2	Single Phase Sets	67	870-0131	4	Nut, Hex - ET (#10-32)
	302-0235	3	Three Phase Sets	68	332-2634	3	Clamp, Insulated - DC Wiring Harness
41			Clamp - Lower	69	402-0070	4	Dampener, Vibration
	302-0236	2	Single Phase Sets	70	356-0090	2	Capacitor (1300 MFD) Used With Switching Voltage Regulator (C1)
	302-0236	3	Three Phase Sets	71	356-0102	2	Clamp, Mounting
42	332-2653	1	Block, Terminal				
43			Screw, Machine - Round Head				
	812-0160	1	1/4-20 x 2-1/2"				
			1/4-20 x 2"				
	812-0158	2	Single Phase Sets				
	812-0158	3	Three Phase Sets				
44			Nut, Self-Locking (1/4-20)				
	870-0212	6	Single Phase Sets				
	870-0212	8	Three Phase Sets				

Output Box (Spec E)



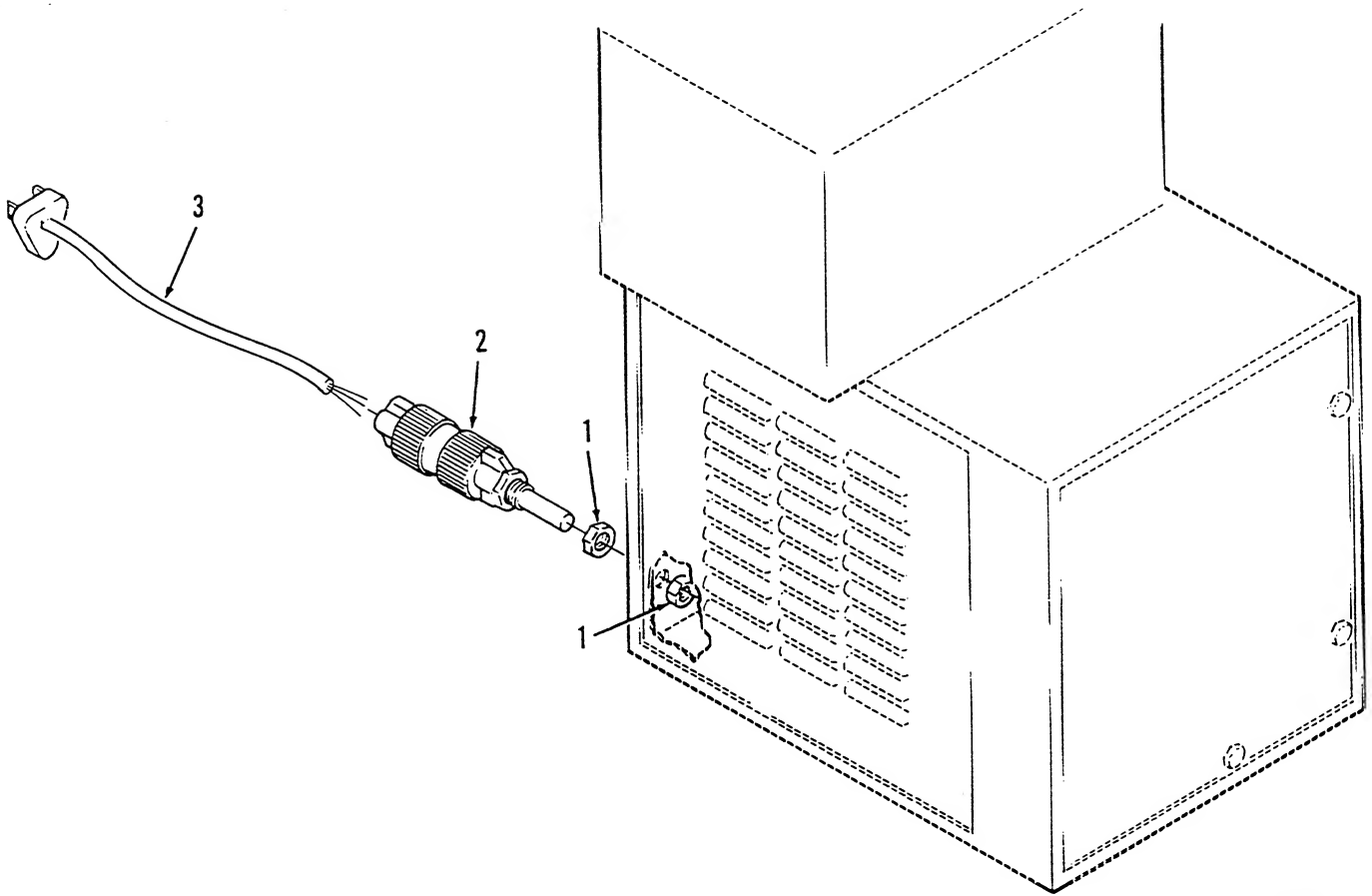
584A

Output Box (Spec E)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	319-0425	1	Box, Output	13	815-0236	1	Screw, Self-Tapping - Hex Head (5/16-18 x 5/8")
2	508-0257	1	Grommet, Plastic - 3-1/2" Hole	14	301-7899	1	Grille
3	338-2327	1	Harness, Wiring Generator to Control (Includes Plug and Pins)	15	517-0169	4	Plug, Plastic - 3/8" Hole
	338-2329	1	Engine to Control (Includes Parts Marked *)	16	800-0007	1	Screw, Cap - Hex Head (1/4-20 x 1") Grounding Stud
4	323-1136	1	Plug, Circular (14 Pin) (P2)	17	856-0006	4	Washer, Lock - EIT (1/4")
5	323-1228	11	Pin, Male	18	526-0018	3	Washer, Flat (1/4")
6	508-0258	1	*Grommet, Rubber	19	862-0001	3	Nut, Hex (1/4-20)
7	323-1304	1	*Housing, Connector 6 Place (J2)	20	850-0045	4	Washer, Lock - Spring (5/16")
	323-1306	1	8 Place (J1)	21	526-0115	2	Washer, Flat (5/16")
8	323-1200	12	*Socket, Female	22	800-0024	4	Screw, Cap - Hex Head (5/16-18 x 1/2")
9	301-7360	1	Bracket - Upper	23	517-0045	4	Plug, Dot Button - 9/32" Hole
10	301-7361	1	Bracket - Lower	24	301-7901	1	Cover
11	815-0567	2	Screw, Self-Tapping - Hex Head (5/16-18 x 1-1/4")	25	332-2634	3	Clamp, Insulated - DC Wiring Harness
12	821-0010	14	Screw, Self-Locking - Hex Washer Head (1/4-20 x 1/2")				

* - Parts Included in 338-2329 Wiring Harness.

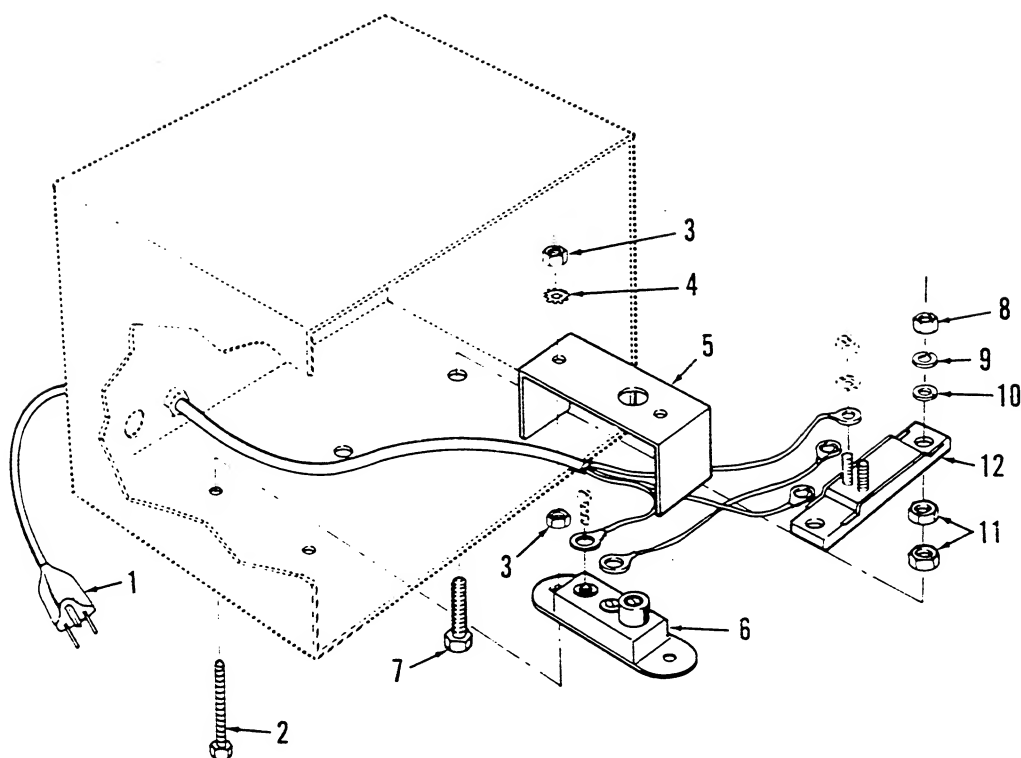
Generator Heater



225A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	331-0041	2	Nut, Hex - Special
2	333-0157	1	Heater, Electrical
3	333-0228	1	Cord, Heater (6')

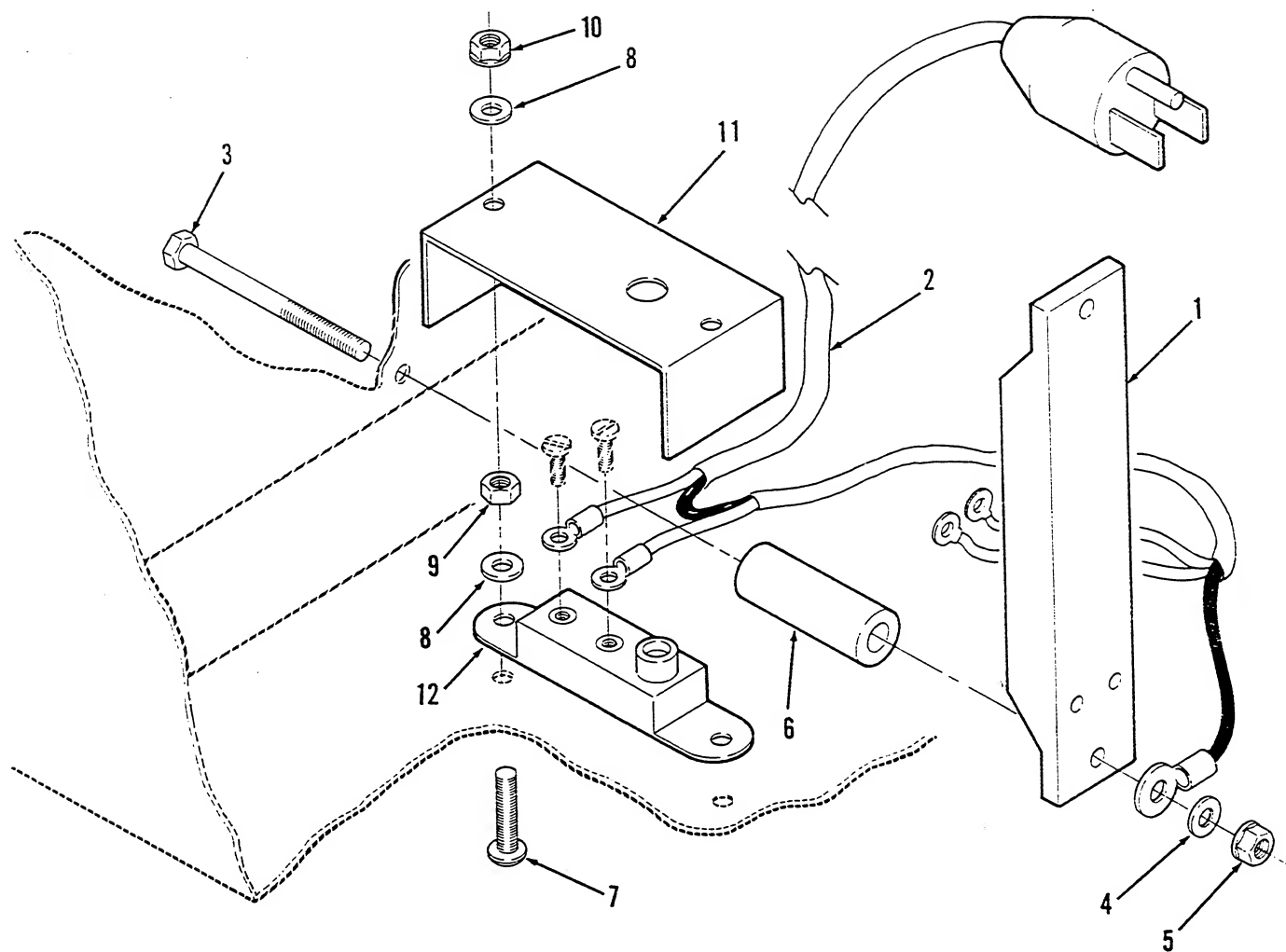
Control Heater
(Spec C and D)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	335-0110	1	Cable, Electrical (3 Wire)
2	812-0090	2	Screw, Machine - Round Head (#6-32 x 2-1/4")
3	860-0006	4	Nut, Hex (#6-32)
4	856-0001	2	Washer, Lock - EIT (#6)
5	301-1886	1	Cover, Thermostat
6	309-0128	1	Thermostat - Adjustable
7	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
8	862-0001	2	Nut, Hex (1/4-20)
9	850-0040	2	Washer, Lock - Spring (1/4)
10	526-0052	2	Washer, Flat (17/64" ID x 9/16" OD x 1/16" Thk)
11	862-0015	4	Nut, Hex (5/16-18) - Used As Spacers
12	333-0151	1	Heater - 75 Watt, 120 VAC; 300 Watt, 240 VAC

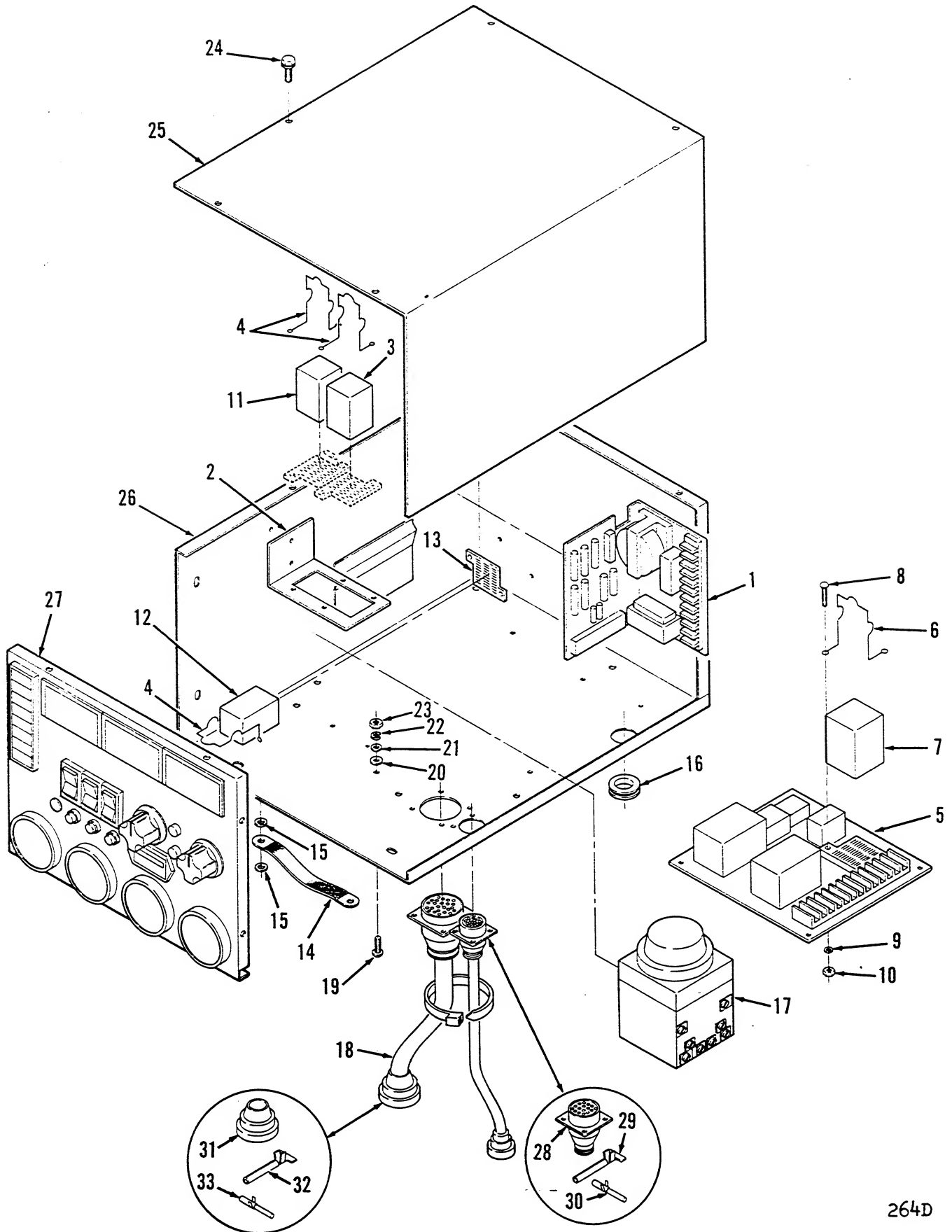
Control Heater (Spec E)



574B

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	333-0151	1	Heater (HR1)	6	130-1107	2	Spacer
2	335-0161	1	Cable	7	812-0070	2	Screw, Machine - Round Head (#6-32 x 1-1/4")
3	800-0034	2	Screw, Cap - Hex Head (5/16-18 x 2-1/4")	8	854-0006	4	Washer, Lock - IT (#6)
4	526-0113	2	Washer, Flat (11/32" ID x 1" OD x 3/32" Thk)	9	860-0006	2	Nut, Hex (#6-32)
5	870-0257	2	Nut, Self-Locking - Hex Head (5/16-18)	10	870-0183	2	Nut, Hex - With ET (#6-32)
				11	301-1886	1	Cover
				12	309-0128	1	Thermostat

Control
(Spec C and D)

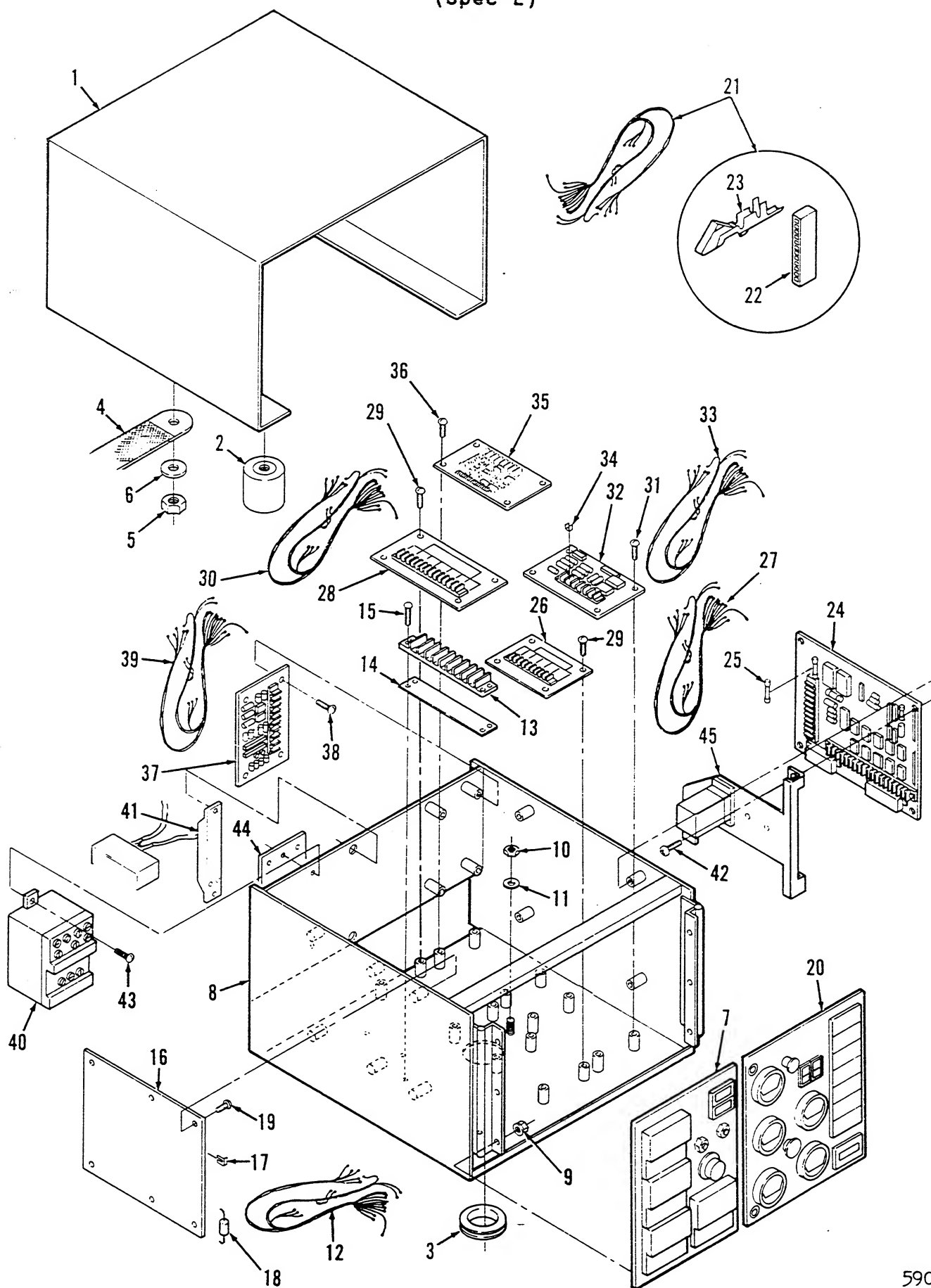


264D

Control (Spec C and D)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Regulator Assembly, Voltage (See Separate Page for Components)	18	338-1427	1	Harness, Wiring - Remote Control (30')
			Standard (VRA21)	19	815-0105	1	Screw, Machine - Round Head (Brass) (#10-32 x 1")
	305-0693-01	1	Fixed Resistor				Grounding Stud
	305-0693-02	1	External Adjust	20	526-0063	2	Washer, Flat - Brass (#10)
			Switching Regulator (VRA21)	21	856-0003	2	Washer, Lock - EIT (#10)
	305-0695-01	1	Fixed Resistor	22	851-0001	1	Washer, Lock - Spring (Brass) (#10)
	305-0695-02	1	External Adjust				
	305-0737	1	Standard (VRAS-2)	23	871-0010	2	Nut, Hex - Brass (#10-32)
2			Bracket, Mounting - Relay	24	821-0005	5	Screw, Self-Locking - Hex Washer Head (#10-32 x 1/2")
	301-3244	1	One Socket Hole				
	301-7334	1	Two Socket Holes	25	301-5150	1	Cover, Control
3	307-1061	1	Relay - Start (K11)	26	301-6230	1	Box, Control
4	307-1157	3	Spring, Holddown - Relay	27	-	1	Panel, Control (See Separate Page for Components)
5			Monitor Assembly, Engine (Includes Replaceable Relay and Spring) (A11)	28			Receptacle - Square Flange
			Two Light Monitoring System (Standard)		323-1137	1	14 Pin (J2)
	300-2510	1			323-1135	1	16 Pin (J1)
			Nine Light Monitoring System	29	323-1229	11	Socket, Female - Used With 14 Pin Receptacle
	300-2453-04	1		30			Pin, Male - Used With 16 Pin Receptacle
6	307-1157	1	Spring, Holddown - Relay		323-1193	4	16-12 Gauge Wire
7	307-1687	1	Relay (A11K1)		323-1194	12	18-14 Gauge Wire
8	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")	31			Plug - Circular
9	854-0006	2	Washer, Lock - IT (#6)		323-1136	1	14 Pin (P2)
10	860-0006	2	Nut, Hex (#6-32)		323-1134	1	16 Pin (P1)
11	307-1061	1	Relay - Voltage Selector (K21)	32			Socket, Female - Used With 16 Pin Plug
12	307-1058	1	Relay - Run (K12)		323-1192	4	14-12 Gauge Wire
13	323-0804	1	Socket, Relay (K12)		323-1195	12	18-14 Gauge Wire
14	337-0049	1	Strap, Ground	33	323-1194	11	Pin, Male - Used With 14 Pin Plug
15	856-0008	2	Washer, Lock - EIT (5/16")				
16	508-0144	1	Grommet, Rubber (1" Hole)				
17			Relay - Time Delay (Stop) (K15)				
			1 Second to 5 Minutes				
	307-1151	1					
	307-1194	1	3 to 30 Minutes				
	307-1189	1	6 to 60 Minutes				

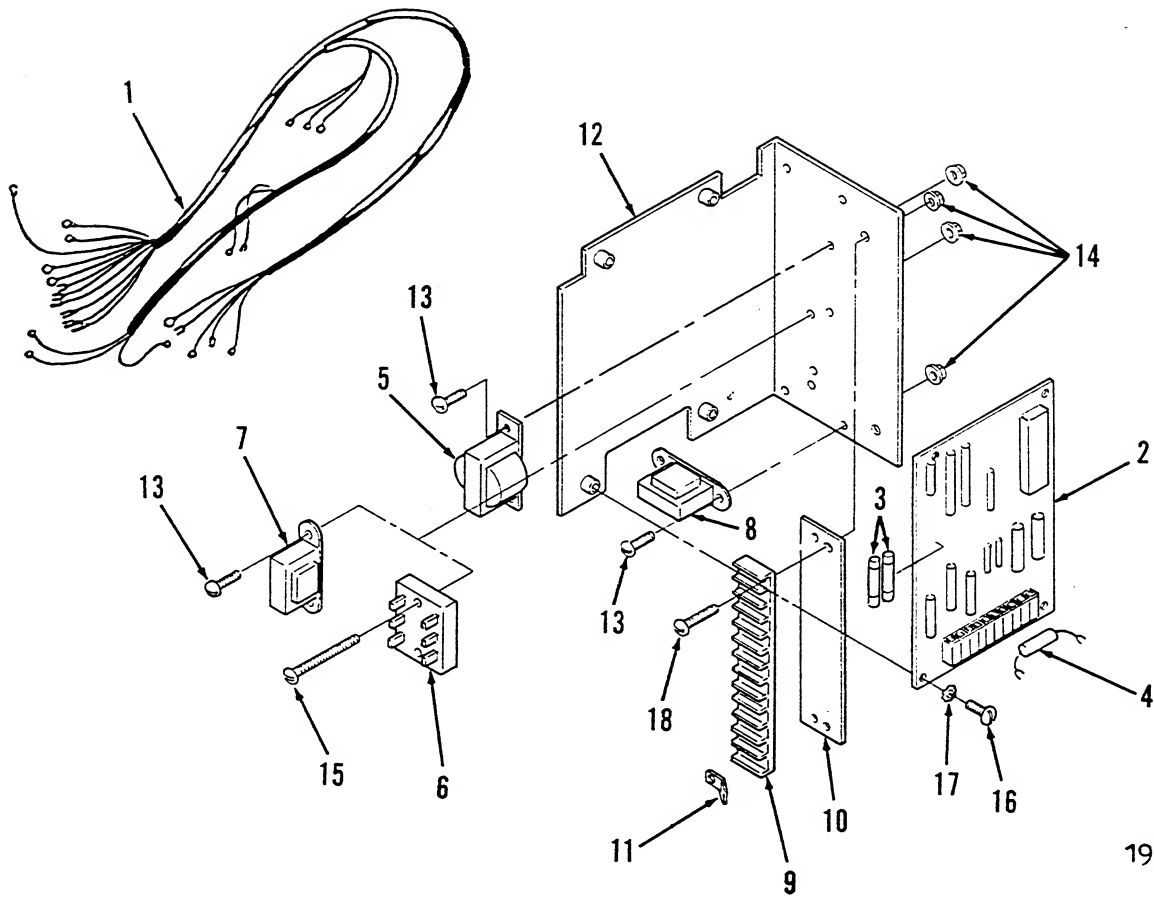
Control (Spec E)



Control (Spec E)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	319-0413	1	Cover, Control	27	338-1906	1	Harness, Wiring - Alarm Relay (7 and 12 Light Controls) (A13 to A11TB2)
2	402-0527	4	Isolator, Vibration	28			Board, Printed Circuit - Alarm Relay (7 and 12 Light Control) (A13)
3	508-0051	1	Grommet (2" Hole)		300-2862	1	12 VDC
4	337-0049	1	Strap, Ground		300-2863	1	24 VDC
5	862-0015	1	Nut, Hex (5/16-18)	29			Screw, Machine - Round Head (#6-32 x 1/2")
6	856-0008	1	Washer, Lock - EIT (5/16")		812-0063	4	7 Light Control
7	-		Door Assembly, Control - AC (Left Hand Side Facing Control Doors) (See Separate Page for Components)		812-0063	8	12 Light Control
8	319-0416	1	Tray, Control	30	338-1905	1	Harness, Wiring - Alarm Relay (12 Light Control) (A14 to A11TB2)
9	870-0131	6	Nut, Hex - ET (#10-32)	31	815-0544	4	Screw, Machine - Round Head - Cross Recessed with IT (#6-32 x 1/2")
10	871-0015	1	Nut, Hex (1/4-20) Grounding Stud	32			Board, Printed Circuit - Time Delay - Start/Stop/Preheat (A15)
11	853-0013	1	Washer, Lock - ET (1/4")				Without Preheat
12	338-2331	1	Harness, Wiring - AC (Includes Terminal Block) (AC Door Assembly to TB21 Terminal Block)		300-2897	1	12 VDC
13	332-0607	1	Block, Terminal - 12 Place (TB21)		300-2899	1	24 VDC
14	332-2723	1	Strip, Marker				With Preheat
15	812-0065	2	Screw, Machine - Round Head (#6-32 x 5/8")		300-2898	1	12 VDC
16	300-2880	1	Board, Voltage Regulator (Includes Jumper) (VR21)		300-2900	1	24 VDC
17	332-2605	1	Jumper, Terminal (VR21TB1-3 to -4) (W1)	33	338-1904	1	Harness, Wiring - Time Delay Start/Stop (A15 to A11TB1)
18	350-0394	1	Resistor (VR21TB1-7 to -8) (Controls Without Panel Voltage Adjust)	34	332-2957	1	Terminal, Tab (Double) (A15TB1-7)
19	815-0544	6	Screw, Machine - Round Head - Cross Recessed With IT (#6-32 x 1/2")	35	-		Board, Printed Circuit - Magnetic Pickup (A16) (See Separate Page for Part Number and Related Replacement Parts)
20	-		Door Assembly, Control - DC (Right Hand Side Facing Control Doors) (See Separate Page for Components)	36	812-0063	4	Screw, Machine - Round Head (#6-32 x 1/2")
21	338-2330	1	Harness, Wiring - DC (Includes Connector Housing and Contact Pins) (DC Door Assembly to Engine Monitor)	37			Board, Printed Circuit - Over/Under Voltage Sensor (A17)
22	323-1308	1	Housing, Connector - 12 Place (J4)		300-2905	1	12 VDC
23	323-1302	12	Pin, Contact		300-2906	1	24 VDC
24			Monitor, Engine (Includes Fuses) (A11)	38	812-0063	4	Screw, Machine - Round Head (#6-32 x 1/2")
			7 Light Control	39	338-1940	1	Harness, Wiring - Over/Under Voltage Sensor (A17 to A11)
	300-2809	1	12 VDC	40	302-1833-01	1	Transducer, Watt (A21)
	300-2810	1	24 VDC	41	-		Heater, Control (See Separate Page for Components)
			12 Light Control	42	815-0544	4	Screw, Machine - Round Head - Cross Recessed with IT (#6-32 x 1/2")
	300-2811	1	12 VDC	43	813-0102	2	Screw, Machine - Round Head (#10-32 x 5/8")
	300-2812	1	24 VDC	44	319-0030	1	Plate, Mounting - Transducer
25			Fuse	45	-		Relay, Run (See Separate Page for Components)
	321-0270	2	20 Amp (F1,F2)				
	321-0231	1	15 Amp (F3)				
	321-0094	2	5 Amp (F5)				
26			Board, Printed Circuit - Alarm Relay (12 Light Control) (A14)				
	300-2855	1	12 VDC				
	300-2856	1	24 VDC				

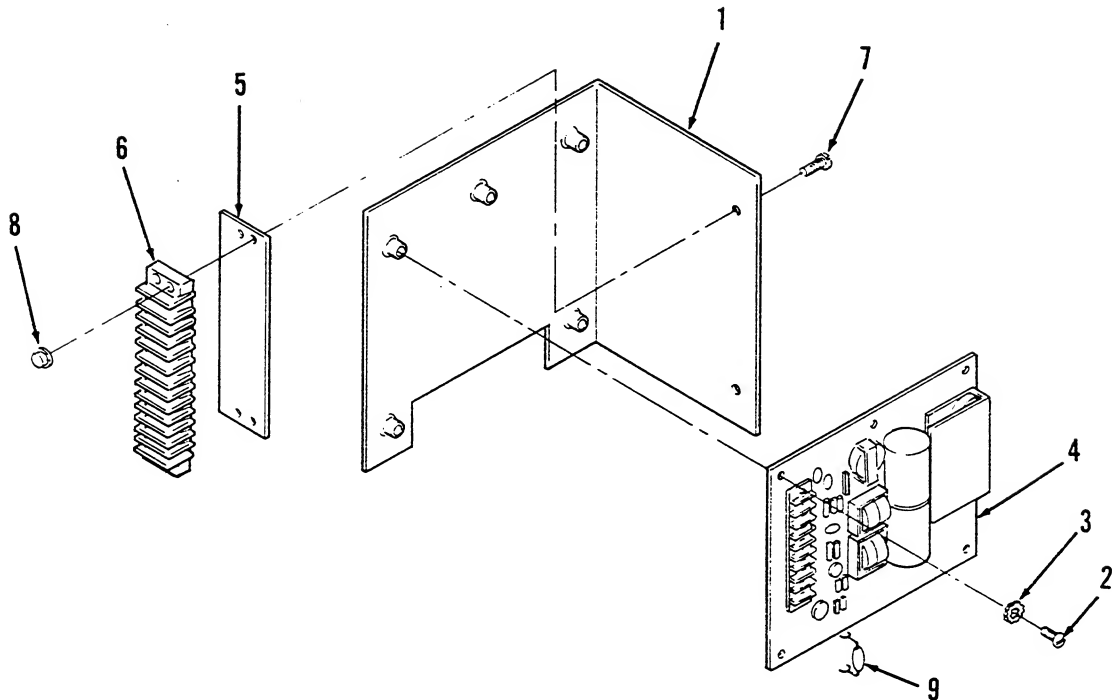
Voltage Regulator Assembly (VRA21 - Spec C and D)



195A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Regulator Assembly, Voltage - Complete Standard	7	315-0343	1	Reactor - Used on Switching Voltage Regulator Assemblies (VRA21L22)
	305-0693-01	1	Fixed Resistor	8	315-0343	1	Reactor (VRA21L21)
	305-0693-02	1	External Adjust	9	332-0607	1	Block, Terminal (VRA21TB2)
			Switching Regulator	10	332-2373	1	Strip, Marker
	305-0695-01	1	Fixed Resistor	11	332-2387	4	Terminal, Tab - Used on Standard Voltage Regulator Assemblies
	305-0695-02	1	External Adjust				
1			Harness, Wiring				
	338-1443	1	Standard Regulator	12	301-5736	1	Panel, Mounting
	338-1670	1	Switching Regulator	13			Screw, Machine - Round Head (#6-32 x 3/8")
2			Board, Voltage Regulator (VR21)		812-0061	4	Standard Voltage Regulator Assemblies
	332-2045	1	Standard Regulator (Includes Fuses)		812-0061	6	Switching Voltage Regulator Assemblies
	300-2409	1	Switching Regulator				
3	321-0204	2	Fuse (1/4 Amp) Used With Standard Voltage Regulator Board (VR21F2,F3)	14	870-0183	8	Nut, Self-Locking - Hex Head With ET Lockwasher (#6-32)
				15	812-0070	2	Screw, Machine - Round Head (#6-32 x 1-1/4") Used on Standard Voltage Regulator Assemblies
4	350-1190	1	Resistor - Fixed (1740 Ohms, 1/2 Watt) Used on Voltage Regulator Assemblies Without External Adjust (VRA21R21)				
				16	812-0059	4	Screw, Machine - Round Head (#6-32 x 1/4")
5	315-0431	1	Transformer (VRA21T21)				
6	305-0524	1	Bridge, Rectifier - Used on Standard Voltage Regulator Assemblies (VRA21CR21)	17	853-0003	4	Washer, Lock - ET (#6)
				18	812-0065	2	Screw, Machine - Round Head (#6-32 x 5/8")

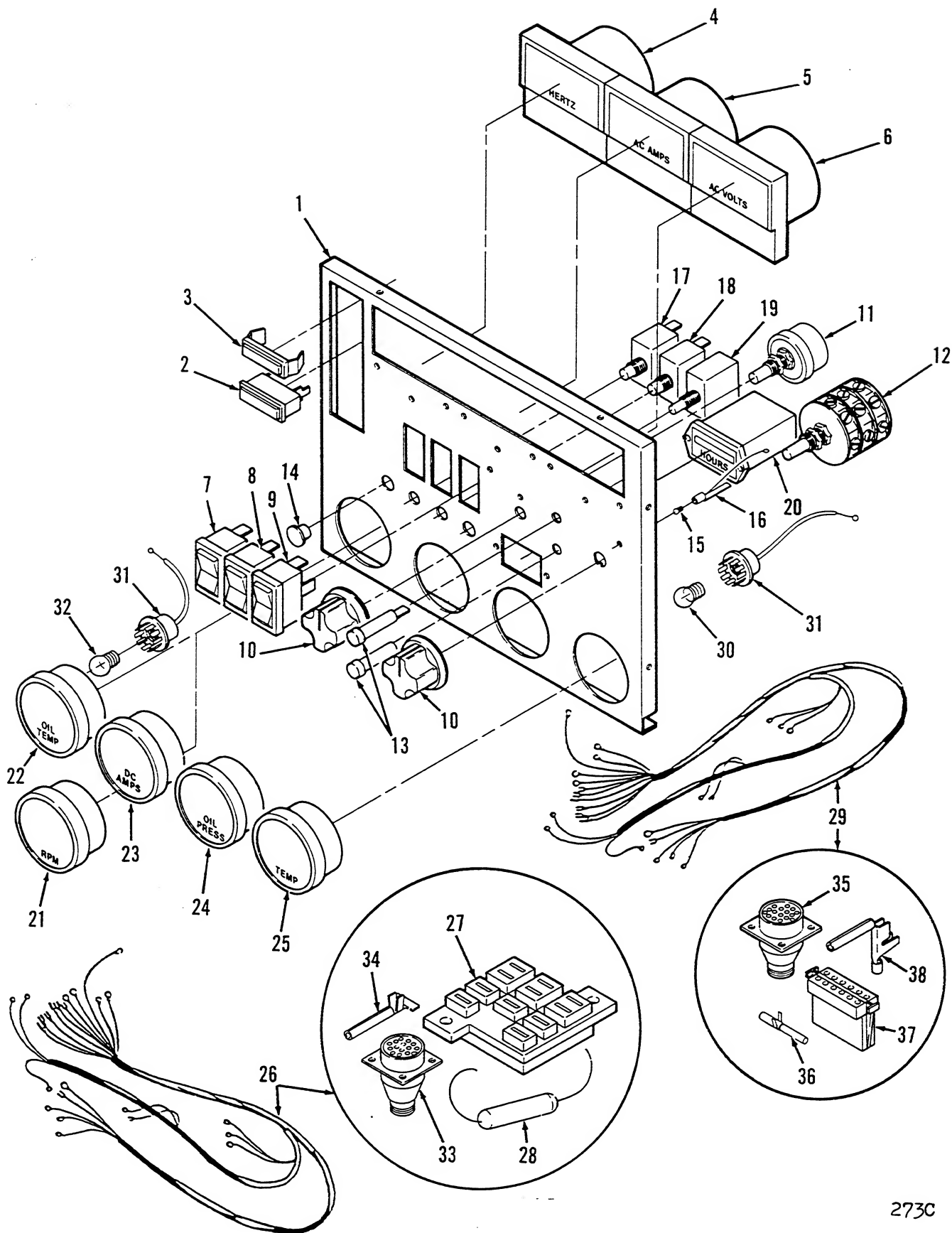
Voltage Regulator Assembly (VRAS-2 Spec C and D)



194A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	305-0737	1	Regulator Assembly, Voltage - Complete	6	332-0607	1	Block, Terminal (VRAS-2TB2)
1	301-9334	1	Panel, Mounting	7	812-0065	2	Screw, Machine - Round Head (#6-32 x 5/8")
2	812-0059	5	Screw, Machine - Round Head (#6-32 x 1/4")	8	870-0183	2	Nut, Self-Locking - Hex Head With ET Lockwasher (#6-32)
3	853-0003	5	Washer, Lock - ET (#6)	9	350-0394	1	Resistor - Fixed (2000 Ohms, 1/2 Watt) Used on Voltage Regulator Assemblies Without External Adjust (VRAS-2R21)
4	300-2880	1	Board, Voltage Regulator (VR21)				
5	332-2373	1	Strip, Marker				

Control Panel (Spec C and D)

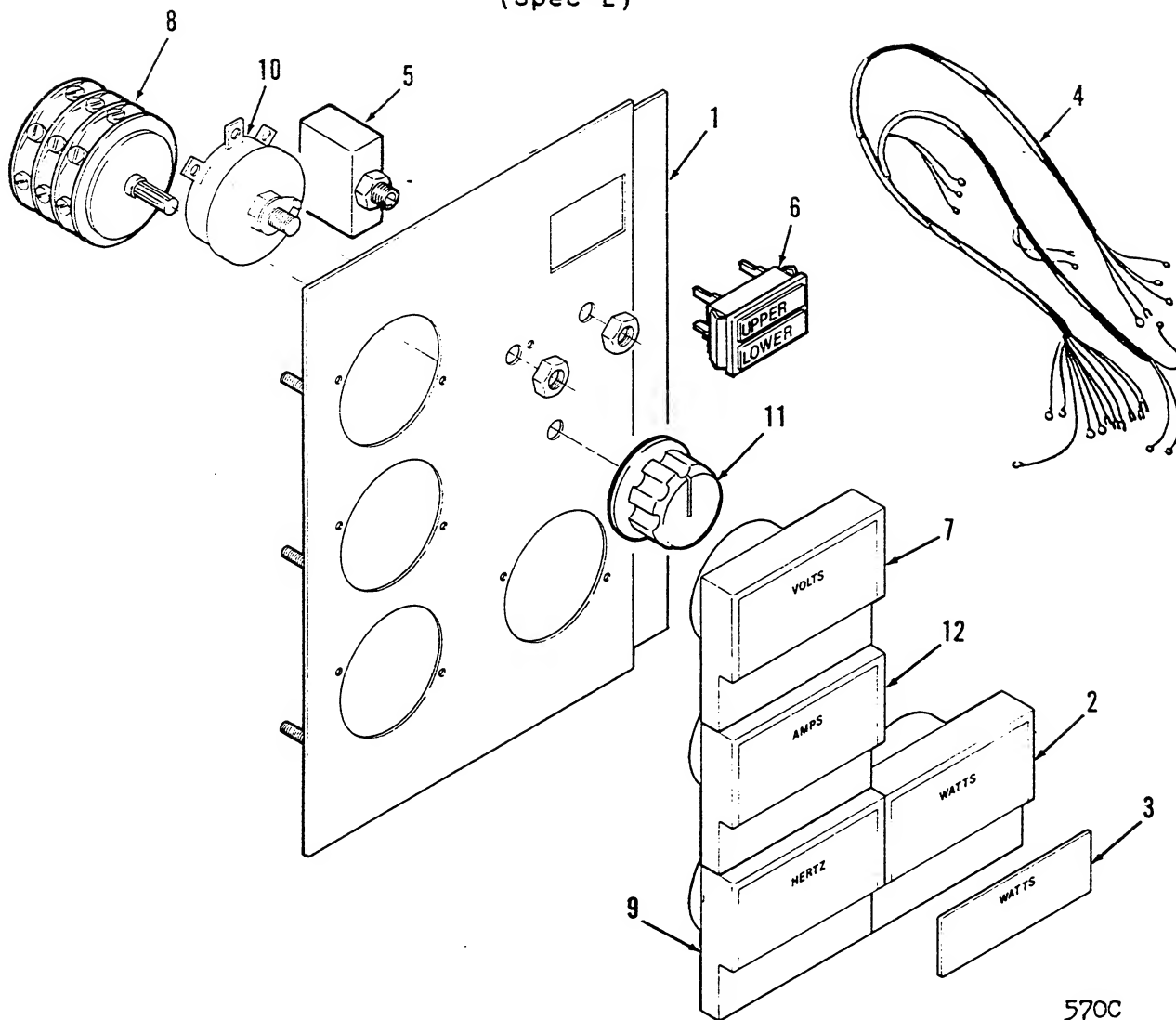


273C

Control Panel (Spec C and D)

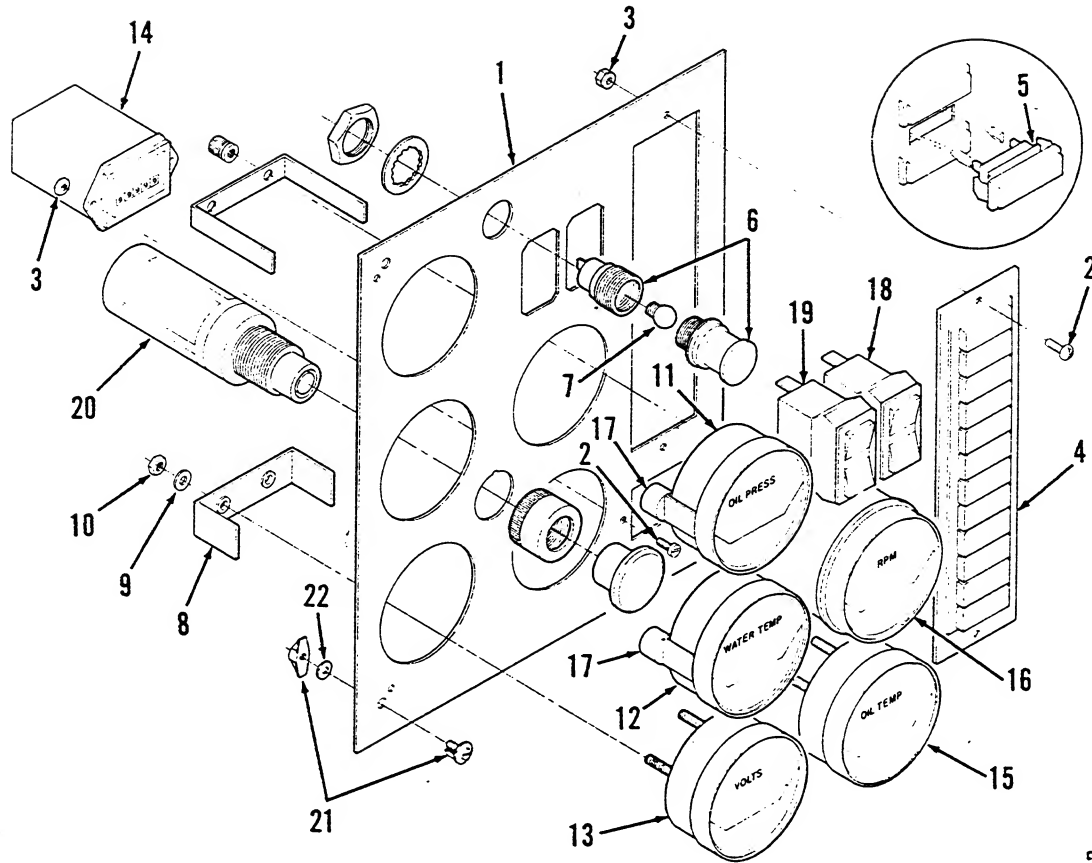
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Panel, Control	19			Breaker, Circuit - Field
	301-7348-01	1	Panels Without AC Meters				Used With VRA21 Voltage
	301-7348-02	1	Panels With Three Round Gauge Holes	320-1138	1		Regulator Assembly
			Panels With Four Round Gauge Holes	320-0530	1		3 Amp (Dual - CB3,CB4)
	301-7349-01	1	Panels With AC Meters	320-1121	1		5 Amp (CB3)
			Panels With Three Round Gauge Holes				Used With VRAS-2 Voltage
	301-7349-02	1	Panels With Four Round Gauge Holes	20	302-0885	1	Regulator Assembly - 3 Amp (CB3)
2			Light, Indicator (14VDC)	21	302-1882	1	Meter, Time Totalizing (M4)
			Controls With Two Light Monitoring System	22	193-0330	1	Tachometer (Includes Socket and Lamp (M5))
	322-0238	1	RUN - Green (DS1)	23	302-1402	1	Gauge, Oil Temperature (M5)
	322-0128	1	FAULT - Red (DS2)	24	193-0352	1	Ammeter - DC (M1)
			Controls With Nine Light Monitoring System	25	193-0351	1	Gauge, Oil Pressure (M2)
			RUN - Green (DS1)	26			Gauge, Water Temperature (M3)
	322-0110	1	LO ENG TEMP - Red (DS2)				Harness, Wiring - AC (Includes Socket for K11 Start Relay, Receptacle and Sockets)
	322-0109	1	HI ENG TEMP - Red (DS3)	338-1642-03	1		Controls Without AC Meters
	322-0108	1	LO OIL PRES - Red (DS4)				Controls With AC Meters
	322-0111	1	OVERSPEED - Red (DS5)	338-1642-02	1		Single Phase Sets
	322-0107	1	OVER CRANK - Red (DS6)				Three Phase Sets
	322-0240	1	PRE HI ENG TEMP - Amber (DS7)	338-1642-01	1		All Except Voltage Code 9XR (Also Includes Resistor and Socket for K21 Voltage Selector Relay)
	322-0241	1	PRE LO OIL PRESS - Amber (DS8)				Voltage Code 9XR
	322-0283	1	SWITCH OFF - Red (DS9)	338-1642-04	1		Socket, Relay (For K11,K21 Relays)
3	322-0141	7	Lens, Indicator Light (No Legend or Lamp) Controls With Two Light Monitoring System	27	323-0765	2	Resistor, Fixed - 47K Ohm, 1/2 Watt (K21R22)
4			Meter, Frequency - AC (M21)	28	350-0556	1	Harness, Wiring - DC (Includes Receptacle, Pins, Plug and Sockets, where required)
	302-1273	1	50 Hertz	29			
	302-1153	1	60 Hertz				
5			Ammeter - AC (M23)				
	302-1468	1	Single Phase Sets	338-1643-01	1		Meters
			Three Phase Sets	338-1644	1		Switches
	302-1147	1	All Except Voltage Code 9XR				Indicator Lights
	302-1298	1	Voltage Code 9XR	338-1646	1		Controls With Two Light Monitoring System
6			Voltmeter - AC (M22)				Controls With Nine Light Monitoring System
	302-1148	1	All Except Voltage Code 9XR	338-1645	1		
	302-1300	1	Voltage Code 9XR				
7			Switch, Push (Remote, Stop, Start) (S10)	30	322-0308	3	Lamp, Pilot (DS10,DS11,DS12)
			Controls With Two Light Monitoring System	31	322-0210	4	Socket, Lamp
			Controls With Nine Light Monitoring System	32	322-0004	1	Lamp, Pilot (DS13)
	308-0531	1	Standard	33	323-1137	1	Receptacle - Square Flange (14 Pin) (P2)
			Pennsylvania State Approved	34			Socket, Female
	308-0620	1	Switch, Push - Pre Heat (S11)	323-1229	11		Used With 338-1642-01 Wiring Harness
8	308-0533	1	Switch, Push - Lamp Test (S12)	323-1229	7		Used With 338-1642-02 Wiring Harness
9	308-0532	1	Knob	323-1229	5		Used With 338-1642-03 Wiring Harness
10	303-0032	2	Potentiometer - 25 Watt (R23)	323-1229	10		Used With 338-1642-04 Wiring Harness
11			Used With VRA21 Voltage Regulator Assembly With External Adjust	35	323-1135	1	Receptacle - Square Flange (16 Pin) (P1) Used With 338-1643-01 Wiring Harness
	303-0261	1	Used With VRAS-2 Voltage Regulator Assembly With External Adjust	36			Pin, Male - Used With 323-1137 Receptacle
12	308-0284	1	Switch, Rotary - Voltmeter/Ammeter (S21)	323-1193	3		16-12 Gauge Wire
13			Light, Pilot (DS21,DS22)	323-1194	10		18-14 Gauge Wire
	322-0323	2	Single Phase Sets	37	323-0984	3	Plug, Connector (12 Pin) (J1, J2, J3) Used With 338-1643-01, 338-1644 and 338-1645 Wiring Harnesses
	322-0211	2	Three Phase Sets				Socket, Male (Side Feed)
14	517-0132	1	Plug, Hole				Used With 338-1643-01 Wiring Harness
15	322-0203	2	Lamp (DS14,DS15)	38			Used With 338-1644 Wiring Harness
16	322-0213	2	Lampholder	323-0488	8		Used With 338-1643 Wiring Harness
17	320-1110	1	Breaker, Circuit - Remote - 7 Amp (CB1)				Used With 338-1644 Wiring Harness
18	320-1110	1	Breaker, Circuit - Control - 7 Amp (CB2)				Used With 338-1645 Wiring Harness

AC Control Door Assembly (Spec E)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	319-0417	1	Door, Control - AC Without Meters	10	303-0261	1	Potentiometer (R21)
	319-0418	1	Without Wattmeter	11	303-0032	1	Knob, Rotary Switch
	319-0419	1	With Wattmeter	12			Ammeter (M22)
2	302-1722	1	Wattmeter (Dial Not Included) (M24)		302-1473	1	0-50/100
3	302-1721-01	1	Dial, Wattmeter		302-1147	1	0-75/150
4	338-1936	1	Harness, Wiring - Watts Transducer (A21 to M24 and TB21)		302-1683	1	0-100/200
5	320-1121	1	Breaker, Circuit (CB21)		302-1684	1	0-150/300
6	322-0363	1	Light, Indicator - Upper/Lower Scale (DS21, DS22)		302-1685	1	0-200/400
7			Voltmeter (M21)		302-1724	1	0-250/500
	302-1148	1	0-300/600		302-1725	1	0-375/750
	302-1753	1	0-750		302-1726	1	0-400/800
8	308-0882	1	Switch, Rotary - Voltmeter/Ammeter (Knob Not Included) (S21)		302-1727	1	0-500/1000
9	302-1720	1	Meter, Frequency (Includes Resistor - Part Number Not Available at Time of Printing) (M23)		302-1728	1	0-600/1200
					302-1729	1	0-750/1500
					302-1798	1	0-1000/2000
					302-1799	1	0-1500/3000
					302-1800	1	0-2000/4000

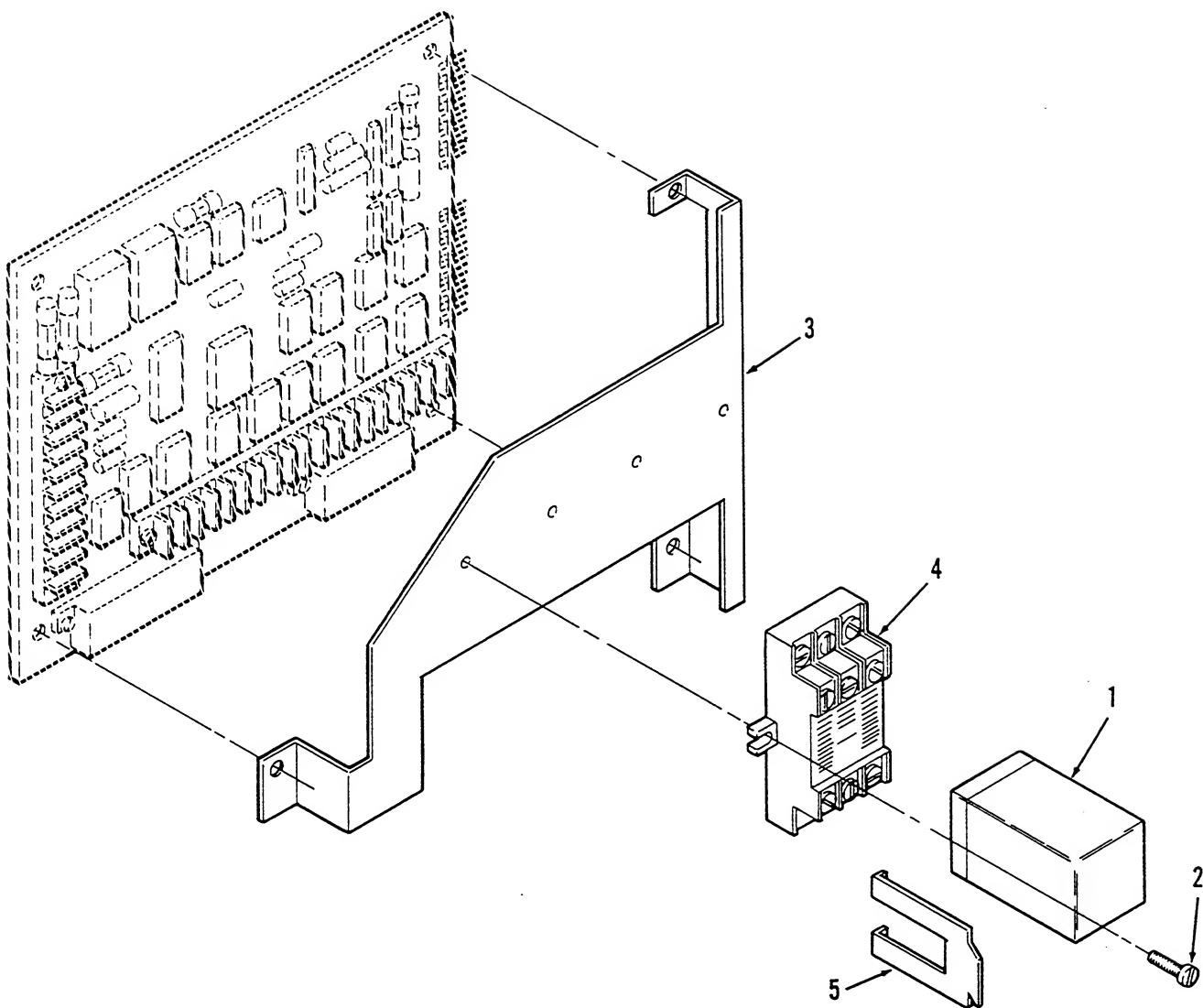
DC Control Door Assembly (Spec E)



571C

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	319-0421	1	Door, Control - DC Doors with Three Round Gauge Holes	11	193-0352	1	Gauge, Oil Pressure (M11)
	319-0420	1	Doors with Five Round Gauge Holes	12	193-0351	1	Gauge, Water Temperature (M12)
2	815-0385	4	Screw, Machine - Round Head (#6-32 x 1/2")	13	302-1641	1	Voltmeter (M13)
3	870-0183	4	Nut, Hex - With ET (#6-32)		302-1642	1	12 VDC
4			Light Assembly, Indicator (Includes Wiring Harness and Connector Housing) (A12)	14	302-0885	1	24 VDC
			Seven Light Assembly	15	193-0330	1	Meter, Time Totalizing (M14)
	322-0359-01	1	12 VDC				Gauge, Oil Temperature (Includes Mounting Clamp)
	322-0359-02	1	24 VDC	16			Tachometer (Part numbers for bulb and mounting hardware were not available at time of printing) (M16)
			Twelve Light Assembly		302-1873-01	1	12 VDC
	322-0360-01	1	12 VDC		302-1873-02	1	24 VDC
	322-0360-02	1	24 VDC	17	193-0250	2	Resistor, Gauge (Used on 24 VDC Applications) (R12,R13)
5			Light, Indicator - Replacement	18	308-0892	1	Switch, Rocker - Restart/Preheat/Panel Light (S11)
	322-0369-01	1	12 VDC	19	308-0784	1	Switch, Rocker - Run/Stop/Remote (S12)
	322-0369-02	1	24 VDC	20	308-0853	1	Switch, Pushbutton - Emergency Stop (Part Number for Bulb Not Available at Time of Printing) (S14)
6	322-0361	1	Light, Panel (DS11)				Latch, Panel
7			Bulb, Panel Light - Replacement	21	406-0661	2	Washer, Flat
	322-0004	1	12 VDC	22	526-0367	2	
	322-0017	1	24 VDC				
8	302-0270	3	Clamp, Mounting				
9	526-0049	9	Washer, Flat (#10)				
10	871-0010	18	Nut, Hex - Brass (#10-32)				

Run Relay (Spec E)



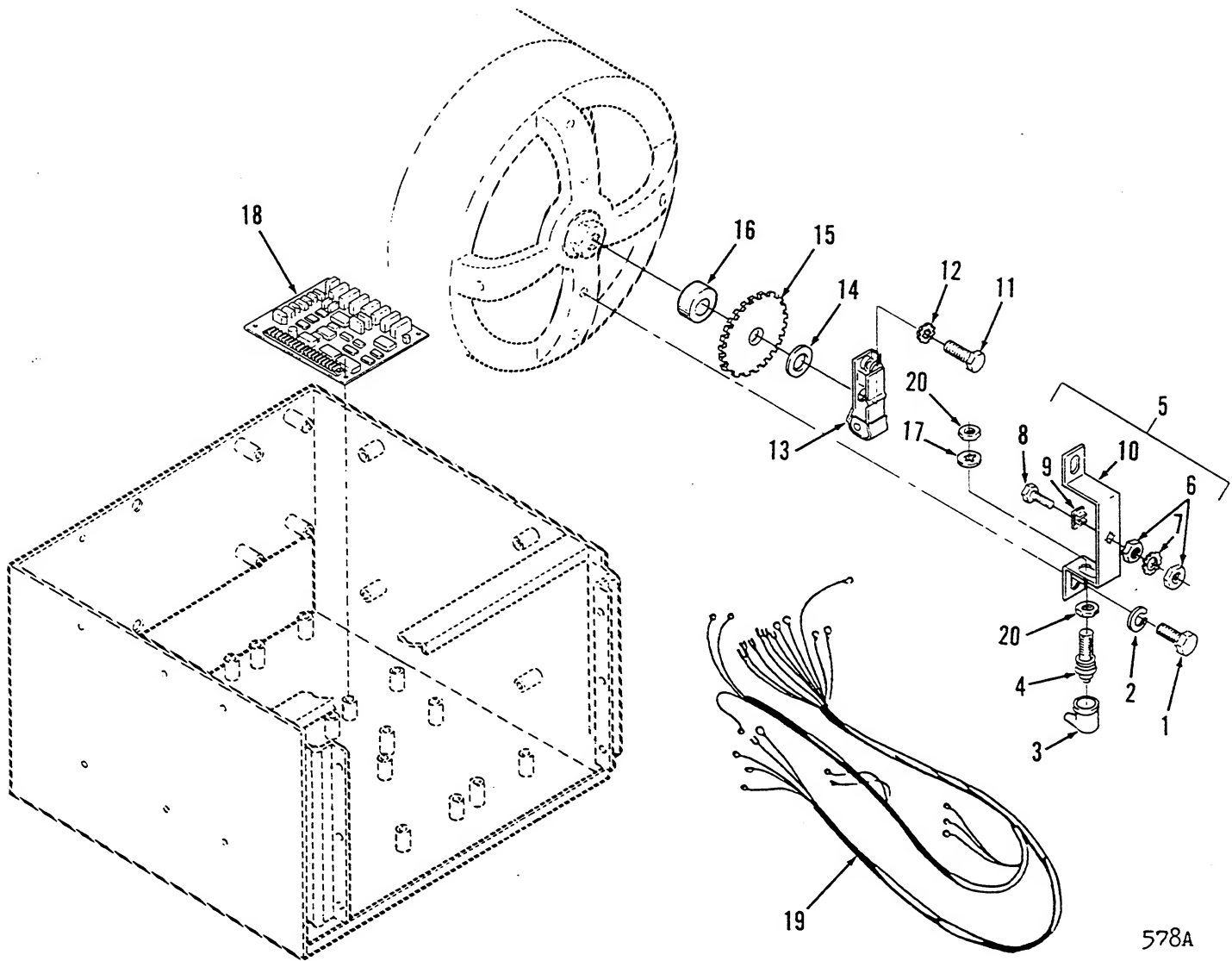
577B

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Relay, Run (K11) (Quantity as Required)
	307-1058	1	12 VDC
	307-1056	1	24 VDC
2	815-0388	2	*Screw, Pan Head - Cross Recessed Thread (#6-32 x 1/2")

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
3	319-0447	1	Bracket, Relay Mounting
4	323-0804	1	*Socket, Relay
5	307-1987	2	*Holddown, Relay

* - Quantities listed are for one mounted relay.

Magnetic Pickup (Spec E)



578A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")
2	850-0040	2	Washer, Lock - Spring (1/4")
3	150-1410	1	Cap, Insulator
4	150-1406	1	Sensor, Speed - Magnetic
5	150-2117	1	Bracket and Point Assembly (Includes Parts Marked *)
6	862-0001	2	*Nut, Hex (1/4-20)
7	853-0013	1	*Washer, Lock - ET (1/4")
8	150-0723	1	*Point, Contact
9	870-0250	1	*Nut, Insulator
10	301-9402	1	*Bracket, Mounting
11	800-0053	1	Screw, Cap - Hex Head (3/8-16 x 1-3/4")
12	856-0010	1	Washer, Lock - EIT (3/8")
13	150-0717	1	Switch, Overspeed (S3)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
14	526-0077	1	Washer, Flat (3/8")
15	150-1557	1	Wheel, Sensor
16	370-4011	1	Spacer
17	854-0031	1	Washer, Lock - IT (3/4")
18			Board, Printed Circuit - Magnetic Pickup (A16)
	300-2901	1	12 VDC
	300-2903	1	24 VDC
19	338-1930	1	Harness, Wiring - Magnetic Pickup (A16 to A11)
20	868-0011	2	Nut, Hex - Jam (3/4-16)

* - Parts Included in 150-2117 Bracket and Point Assembly

Paint, Thread Sealant and Gasket Kits

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	525-0305	-	Paint, Green - Enamel (13 oz. Pressurized Spray Can)
	518-0452	-	Sealant, Thread (50 cc Bottle)
	168-0173	1	Kit, Gasket - Lower End
	168-0160	1	Kit, Gasket - Valve Grind

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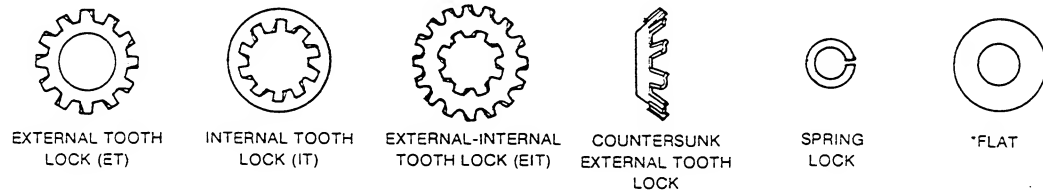
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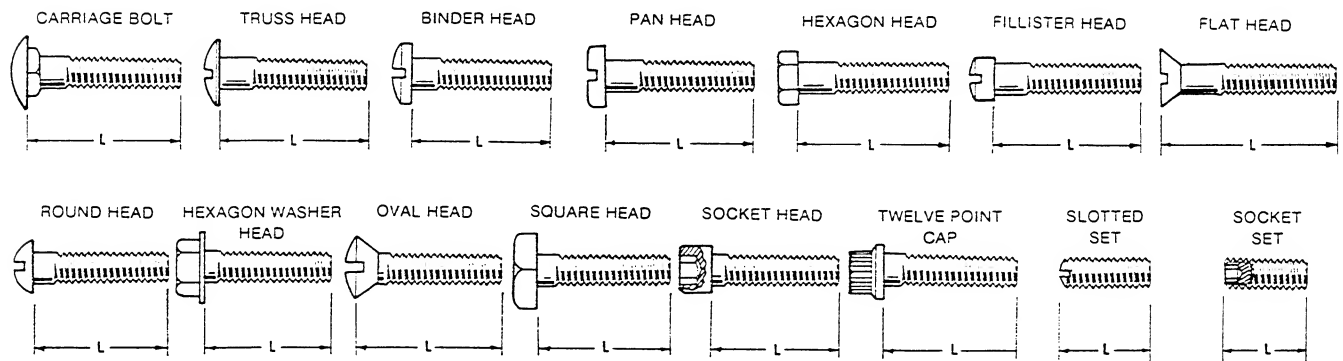
Illustrated hardware items are only for identification purposes. All hardware items listed throughout this parts catalog are steel SAE grade five (5) or lower (zinc plated with clear chromate dip) unless parts description indicates differently. All dimensions are in inches.

WASHER TYPES



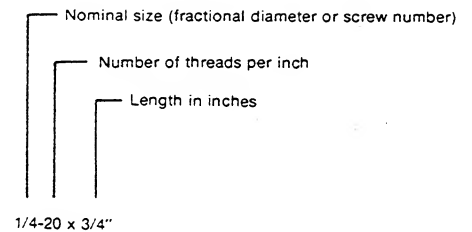
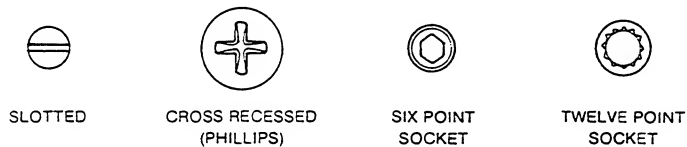
- * - Flat washer dimensions given are: Inside Diameter (ID), Outside Diameter (OD) and Thickness (Thk).

BOLT AND SCREW TYPES



L - Measure length between these points.

INTERNAL DRIVE TYPES



NUT TYPES





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